

County

Borough



of Derby.

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# ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

FOR THE

YEAR 1907,

BY

William J. Howarth, M.D., D.P.H., &c.,

MEDICAL OFFICER OF HEALTH, MEDICAL SUPERINTENDENT OF THE BOROUGH  
ISOLATION HOSPITAL, AND MEDICAL OFFICER TO THE  
EDUCATION COMMITTEE.

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PUBLIC HEALTH DEPARTMENT,

FORD STREET, DERBY,

MARCH 10TH, 1908.

TO THE

Chairman and Members of the Sanitary Committee.



GENTLEMEN,

I beg to report herewith upon the Health and Sanitary condition of the County Borough of Derby during the year 1907. This is the 31st Annual Report of the Medical Officer of Health, and the 10th which I have had the honour of making to you.

With the approval of the Education and Sanitary Committees, the Report on School Hygiene is printed herewith.

I am, Gentlemen,

Yours obediently,

WILLIAM J. HOWARTH,

MEDICAL OFFICER OF HEALTH.



# County Borough of Derby.

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## SANITARY COMMITTEE.

ALDERMAN A. SIMPSON, J.P., MAYOR.	
COUNCILLOR R. LAURIE, M.D., J.P., CHAIRMAN.	
COUNCILLOR ARNOLD-BEMROSE,	COUNCILLOR HEXTALL, J.P.
D.Sc., J.P.	„    INNES.
„    DOMLEO.	„    LONGDON, J.P.
„    EATON.	„    NEWLAND.
„    HASLAM.	„    NEWBOLD.

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### Hospital Sub-Committee.

THE MAYOR.	COUNCILLOR LAURIE, M.D., J.P.
COUNCILLOR EATON.	„    NEWLAND.
„    INNES.	

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### Sub-Committee to deal with Housing and Tuberculous Milk.

COUNCILLOR LAURIE, M.D., J.P., CHAIRMAN.	
COUNCILLOR EATON.	COUNCILLOR HASLAM.

## SANITARY STAFF.

### Medical Officer of Health.

WILLIAM J. HOWARTH, M.D., D.P.H., &c.

### Assistant to the Medical Officer of Health.

C. J. COLEMAN, M.A., M.D., D.P.H.

### Chief Sanitary Inspector.

W. WILKINSON, Certif. Sany. Inst., R.P.C.

### Assistant Sanitary Inspectors.

THOMAS TURNER,     W. DOLMAN, Certif. Sany. Institute.  
FREDK. W. FORD, Certif. Sany. Institute.  
HARRY J. MORGAN, Certif. Sany. Institute.  
STEPHEN J. LAVER, Certif. Sany. Institute, R.P.C.  
MISS WILKINSON, Cert. San. Insp. Board.  
MISS DAVIES, Cert. San. Insp. Board and Sany. Institute.

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### Health Visitor.

NURSE CASH.

By arrangement with the Derby Sanitary and Nursing Institute.

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### Clerks.

HENRY E. DAYKIN.	H. COPE.
H. ROBINSON.	FRED. MEAKIN.
G. J. GLEESON.	A. EASON
MISS BROWN, Certif. C.M.B.	

By order of the Local Government Board, dated March 23rd, 1891, Article 18, Section 14, it is prescribed that the Medical Officer of Health shall "prepare an Annual Report, to be made to the "end of December in each year, comprising a summary of the "action taking during the year for preventing the spread of "disease, and an account of the Sanitary state of his district "generally at the end of the year. The Report shall also contain an account of the enquiries which he has made as to conditions injurious to health existing in his district, and of the "proceedings in which he has taken part or advised under the "Public Health Act, 1875, so far as such proceedings relate to "those conditions; and also an account of the supervision exercised by him or on his advice, for Sanitary purposes over places "and houses that the Sanitary Authorities have power to "regulate, with the nature and results of any proceedings which "may have been so required and taken in respect of the same "during the year. It shall also record the action taken by him "or on his advice, during the year, in regard to offensive trades, "and to factories and workshops. The Report shall also contain "tabular statements (on forms to be supplied by the Local "Government Board, or to the like effect) of the sickness "and mortality within the district, classified according to "diseases, ages, and localities."

Under Section 132 of the Factory and Workshop Act, 1901, the Medical Officer is also required in his Annual Report to report specifically on the administration of the Factory Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State.

The Memorandum of the Board of Education, dated November 22nd, 1907, requires that "Every School Medical Officer should make an annual report to the Local Education Authority on the schools and children under his superintendence. The report should be concerned chiefly with the conditions and circumstances affecting the health of the children in the Elementary Schools of the district.

It should also contain statistical records of the number of children examined and of those re-examined or under medical supervision; the nature and results of the examination; the number of visits paid to classes; the number and character of the diseased conditions found at certain age periods; particulars as to blind, deaf, defective and epileptic children; the medical advice given both as to the prevention of conditions inimical to health and the remedy of diseased conditions that may be discovered, action taken, and so forth.

The Authority should send two copies of the report to the Board of Education as soon as possible after the end of the year under review."

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## STATISTICAL SUMMARY, 1907.

Population estimated to {	Males	... 61,303	} Total ... 125,774
the middle of 1907 {	Females	... 64,471	
Marriages	...	...	1,005
Annual rate of Persons Married per 1,000 of the population			15.9
Births ... {	Males	.. 1,595	} Total ... 3,152
...	Females	... 1,557	
Annual rate of Births per 1,000 of the population			25.1
Deaths ... {	Males	... 933	} Total ... 1,784
...	Females	... 851	
Annual rate of Mortality ,	Males	... 15.2	} Total ... 14.2
per 1,000 ... {	Females	... 13.2	
Excess of Registered Births over Deaths			1,368

**Area.**—The area of the old Borough is 3,445 acres. The acreage of the portions of Normanton, Osmaston, and Alvaston, and Boulton, added to the Borough, Nov., 1901, is 1,815.

**Elevation.**—The inhabitants of Derby reside at a mean elevation of 182 feet above sea level, the highest point being at the Borough Boundary in Burton Road, 325 feet, and the lowest at "The Siddals," 142 feet. The elevation at the Market Place is 157 feet.

**Houses.**—At the Census of 1901 there were 26,625 houses, of these, 24,851 were inhabited, and of the remaining 1,774, there were, on Census night, 995 "in occupation," that is, utilised for business or other purposes but without occupants, whilst 779 were not "in occupation." In addition there were 228 houses in course of erection.

**Density.**—The mean density of the Borough was equal to 24 persons per acre. The density of the various wards was as follows:—Abbey 34, Arboretum 80, Babington 69, Becket 79, Bridge 25, Castle 76, Dale 20, Derwent 6, Friar Gate 53, Kings' Mead 86, Litchurch 21, Markeaton 53, Normanton 75, Osmaston 5, Peartree 20, and Rowditch 25 persons per acre.

**Annual Rateable Value.**—The rateable value of the Borough for 1907 was £530,170 for District Rate purposes, and £561,041 for Poor Rate purposes.

TABLE I.—Population, Number of Births, Total Deaths, and Deaths from certain causes, with the rates per 1,000 of the Population in the Borough of Derby for the past thirty years.

Year	Population.	Corrected Number of Deaths.	Death-rate per 1,000 living.	Births.	Birth-rate per 1,000 living.	Deaths from seven principal Zymotic Diseases.	Zymotic rate per 1,000 living at all ages.	Deaths from Phthisis.	Phthisis Death-rate.	Infantile Mortality per 1,000 Births.	Deaths from Respiratory Diseases exclusive of Phthisis.	Respiratory Death-rate.
1878	80,385	1,613	20.1	3,092	38.4	257	3.1	162	2.0	148	296	3.6
1879	80,385	1,970	24.5	3,139	39.1	380	4.7	147	1.8	132	407	5.0
1880	80,385	1,611	20.1	3,050	37.9	233	2.8	140	1.7	145	224	2.7
1881	81,470	1,529	18.9	3,156	38.8	166	2.03	131	1.6	129	287	3.5
1882	82,687	1,533	18.5	2,959	35.7	187	2.2	140	1.6	139	259	3.1
1883	83,922	1,519	18.6	3,074	36.6	114	1.7	116	1.7	146	263	3.1
1884	85,176	1,569	18.4	3,013	35.3	181	2.1	131	1.5	143	259	3.0
1885	86,449	1,591	18.4	3,055	35.3	132	1.5	128	1.3	138	310	3.5
1886	87,741	1,651	18.8	3,069	35.9	166	1.8	154	1.7	148	272	3.1
1887	89,052	1,683	18.9	2,855	32.9	223	2.5	146	1.6	138	247	2.7
1888	90,383	1,550	17.1	2,824	31.2	163	1.8	143	1.2	145	271	2.9
1889	91,733	1,582	17.1	2,906	31.6	133	1.4	99	1.7	147	281	3.0
1890	93,105	1,813	19.8	2,699	28.9	200	2.7	143	1.5	160	326	3.5
1891	94,422	1,765	18.7	2,885	30.6	126	1.4	139	1.5	139	158	1.7
1892	95,528	1,711	18.2	3,038	31.8	171	1.9	140	1.5	171	295	3.1
1893	96,648	1,740	18.1	3,123	32.4	190	2.0	152	1.4	155	281	2.9
1894	97,781	1,468	15.1	2,890	29.6	151	1.6	103	1.1	121	249	2.6
1895	98,927	1,669	16.9	2,909	29.4	178	1.8	105	1.1	138	254	2.6
1896	100,057	1,577	15.8	2,834	28.4	182	1.9	137	1.4	150	210	2.4
1897	101,262	1,656	16.4	2,803	27.7	173	1.8	99	0.98	168	249	2.5
1898	102,448	1,756	17.2	2,860	28.0	235	2.3	133	1.3	169	257	2.6
1899	103,649	1,775	17.2	2,984	28.8	173	1.7	116	1.2	163	241	2.4
1900	104,681	1,854	17.7	2,900	27.7	247	2.4	113	1.1	173	271	2.6
1901	106,076	1,598	15.1	2,939	27.8	189	1.8	99	0.94	155	220	2.8
1902	116,869	1,639	14.1	3,326	28.5	115	1.3	102	0.87	126	264	2.3
1903	118,707	1,596	13.5	3,215	27.1	108	0.9	102	0.86	128	210	1.8
1904	120,449	1,821	15.2	3,282	27.3	167	1.4	121	1.01	143	264	2.2
1905	122,207	1,746	14.3	3,108	25.5	183	1.5	96	0.79	151	254	2.1
1906	123,981	1,733	14.0	3,103	25.1	188	1.6	113	0.92	116	244	2.0
1907	125,774	1,784	14.2	3,152	25.1	219	1.8	121	1.0	120	269	2.2

### Vital Statistics for the Year 1907.

**Estimated Population.**—The estimated population of the Borough at the middle of 1907 was 125,774. This total includes the inhabitants living in the parts of the Borough added in the year 1901, and also makes allowance for the probable increase in these districts. The increase in population during the twelve months is thus estimated to be 1,793, which is 425 higher than the excess of births over deaths.

**Marriages.**—The number of marriages which were solemnized during 1907 was 1,005; this represents a rate of persons married equal to 15.9 per 1,000 of the population, which is the same as the rate recorded last year, and is lower than any recorded since 1893, the first year of which I have a record. The following table gives information relating to the marriage rate for the past 10 years:—

Year.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.
Number of Marriages.	961	961	1025	943	918	957	973	972	981	1005
Rate.	18.8	18.6	19.6	17.8	16.3	16.1	16.17	16.0	15.9	15.9

**Birth Rate.**—The births registered during the year numbered 3,152 of which there were:—

	Males.	Females.	Total.	Grand Total.
Legitimate	... 1,535	1,495	3,030	3,152
Illegitimate	... 60	62	122	

From these figures it will be seen that the illegitimate births represent nearly 3.9 per cent. of the present total, as compared with 4.8 per cent. in the previous year. In the following table is set out the distribution of all births, both legitimate and illegitimate:—

TABLE II.—Relating to Births, Legitimate and Illegitimate.

WARD.	BIRTHS.			Birth Rate per 1,000.	Illegitimate Births per 1,000 Births in 1907.	Total Legitimate and Illegitimate Births registered during the years 1902 to 1907.		
	Legitimate	Illegitimate	Total.			Legitimate.	Illegitimate	Illegitimate per 1,000 Births.
Abbey ...	265	9	274	28.7	33	1750	69	39
Arboretum ...	190	3	193	19.9	16	1164	34	29
Babington ...	132	8	140	15.2	58	880	34	38
Becket ...	155	6	161	20.2	38	924	50	52
Bridge ...	131	4	135	24.3	30	654	32	47
Castle ...	211	13	224	26.3	58	1387	71	49
Dale ...	216	3	219	41.8	14	1127	33	29
Derwent ...	152	5	157	29.1	32	902	30	33
Friargate ...	209	10	219	23.5	46	1286	41	31
Kingsmead ...	163	15	178	23.1	85	1048	87	77
Litchurch ...	148	8	156	16.9	52	945	50	51
Markeaton ...	206	13	219	27.8	60	1308	64	47
Normanton ...	220	6	226	28.6	27	1425	30	20
Osmaston ...	191	4	195	32.8	21	1185	42	35
Pear Tree ...	268	4	272	35.9	15	1411	33	23
Rowditch ...	167	11	178	20.3	62	1011	63	58
Others ...	6		6			6		
Totals ...	3030	122	3152	25.1	39	18,423	763	40

The births registered during the year numbered 3,152, in which total are included 1,595 boys and 1,557 girls. This represents a birth rate of 25.1 per 1,000, and is exactly the same as recorded last year. It is the lowest on record. For 1905, the rate was 25.6, and in 1904 it was 27.3. It is interesting to compare the yearly increases in population as represented by the difference between registered births and deaths in the early half of the "eighties," and those recorded since the extension of the Borough in the present decade. The population in the first period was only practically two-thirds what it is to-day, the death-rate was never less than eighteen and the birth rate was only once below thirty-five.

Year.	Birth Rate.	Death Rate.	Natural Increase of Population.	Year.	Birth Rate.	Death Rate.	Natural Increase of Population.
1882	35.7	18.5	1426	1902	28.5	14.1	1687
1883	36.6	18.6	1425	1903	27.1	13.5	1619
1884	35.3	18.4	1444	1904	27.3	15.2	1458
1885	35.3	18.4	1464	1905	25.5	14.3	1362
1886	35.9	18.8	1418	1906	25.1	14.0	1370
1887	32.9	18.9	1175	1907	25.1	14.2	1368

In the earlier period the first five years show a fairly constant natural increase, but in 1887 a marked decline in the birth rate without any corresponding fall in the death rate resulted in a distinct diminution in the number of individuals added to the population by the excess of births over deaths. In the later period the figures show a progressive decline notwithstanding the increasing population. In the first two years of the later period the decline of the birth rate was not sufficiently pronounced to affect the natural increase owing to the marked decline in the death rate, in fact it was higher than in any of the years of the first period. In the last three years this marked decline in the birth rate has continued with the result that the actual number of persons added to the population as the balance between births and deaths is less now than it was twenty years ago. The decrease in the birth rate has been practically ten per 1,000, and the death rate four per 1,000. The increase of population is of course also assisted by the excess of immigrants over emigrants.

As regards the various wards, the birth rates, as in previous years, varied between very wide limits, being as low as 15.2 in Babington Ward, and as high as 41.8 in Dale Ward. Almost each year these wards have respectively the lowest and highest birth rates. Rates of over 30 were also recorded in Pear Tree and Osmaston Wards. Litchurch and Rowditch are wards which almost always have low birth rates, and in 1907 they had respectively rates of 16.9 and 20.3. The fact that these various wards occupy fairly constant positions in this table seems to indicate as I have already stated, that there is some other factor at play other than error creeping in as a result of fewness in numbers.

TABLE III.—Infantile Mortality during the Year 1907.  
Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.	Non-Residents.
	Certified .. .. .	77	20	19	18	134	44	36	24	27	19	18	16	14	16	11	18	377	..
	Uncertified .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
i. Common Infectious Diseases.	Small Pox .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles .. .. .	..	..	..	..	..	..	..	..	..	2	2	2	1	..	..	..	7	..
	Scarlet Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Diphtheria: Croup .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	2	10	..
	Whooping Cough .. .. .	..	..	..	..	..	1	1	2	..	..	..	1	2	1	..	2	18	..
ii. Diarrheal Diseases.	Diarrhoea, all forms .. .. .	..	..	1	..	1	1	4	3	3	..	1	2	1	1	..	1	..	..
	Enteritis, Muco-enteritis, Gastro-enteritis .. .. .	..	1	1	..	2	4	..	1	..	1	..	..	..	1	..	..	9	..
	Gastritis, Gastro-intestinal Catarrh .. .. .	..	..	..	..	..	2	..	1	1	1	..	..	..	..	..	..	5	..
	Premature Birth .. .. .	46	6	4	4	60	6	1	..	1	..	..	1	..	..	..	..	69	..
iii. Wasting Diseases.	Congenital Defects .. .. .	9	3	1	2	15	3	..	..	1	..	..	..	..	..	..	..	19	2
	Injury at Birth .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Want of Breast-milk, Starvation .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
iv. Tuberculous Diseases.	Atrophy, Debility, Marasmus .. .. .	9	4	4	7	24	12	16	5	5	2	1	..	2	1	2	..	70	2
	Tuberculous Meningitis .. .. .	..	..	..	..	..	1	1	..	2	..	..	..	..	..	1	..	5	..
	Tuberculous Peritonitis: Tabes Mesenterica .. .. .	..	..	..	..	..	..	3	..	1	..	3	1	1	1	..	2	12	..
	Other Tuberculous Diseases .. .. .	..	..	..	..	..	..	2	..	..	..	2	1	1	..	..	1	7	..
	Erysipelas .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Syphilis .. .. .	..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	3	..
v. Other Causes.	Rickets .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
	Meningitis (not Tuberculous) .. .. .	..	..	..	..	..	..	..	..	1	..	..	..	..	2	1	..	2	..
	Convulsions .. .. .	8	4	1	2	15	5	3	4	6	4	1	..	2	1	1	1	43	..
	Bronchitis .. .. .	1	..	3	..	4	5	2	3	4	3	3	3	2	3	2	3	37	..
	Laryngitis .. .. .	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
	Pneumonia .. .. .	..	..	3	..	3	..	1	2	..	1	1	1	..	5	2	5	21	..
	Suffocation, overlying .. .. .	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	2	..
	Other Causes .. .. .	5	1	1	3	10	1	2	2	2	4	3	4	2	2	3	2	37	2
		77	20	19	18	134	44	36	24	27	19	18	16	14	16	11	18	377	7



The number of births which have been divided for the purpose of ascertaining facts relating to illegitimacy is now approaching 20,000, and it will be observed that practically one child in every 25 born in Derby is illegitimate. Yearly totals show wide variations, and as an instance the illegitimate rate per 1,000 children born was 91 in Litchurch last year, though the average rate for that ward extending over a period is about 50. The rate of illegitimacy is highest in Kings' Mead Ward, not less than one child in thirteen being born with that social stigma attached to it. The ward which shows the next highest figure is Becket Ward, rather less than one child in 20 being illegitimate. Rowditch Ward shows a higher rate than Becket Ward, but that is due to the fact that the illegitimate births in the Workhouse are credited to that ward owing to the address of the mother not being known—a large proportion should really be transferred to other wards. The credit for the lowest illegitimate rate belongs to Normanton Ward, whilst a low rate is also recorded in Pear Tree; two other wards, Dale Ward and Arboretum Ward have also rates below 30. It is interesting to note that two of the wards which have already been mentioned as having high birth rates, have also low illegitimate rates.

I append herewith the usual table relating to the burial of still-born children in the Derby Cemeteries. Such burials equal 8.7 per cent. of the total. I trust that the obligation to notify still-births under the Notification of Births Act, 1907, which is now in operation, will result in some useful information being obtained under this heading. An improvement in the law relating to such cases is undoubtedly desirable. For the particulars contained in the following table I am indebted to Mr. C. E. Oliver, Clerk to the Derby Burial Board.

*Burials in the Derby Cemeteries during the past 13 years.*

Year.	Ordinary Burials.	Burials of Still-born Children.	Total.	Percentage of Burials of Still-born Children to the whole.
1895	1587	210	1797	11·7
1896	1510	218	1728	12·7
1897	1581	182	1763	10·4
1898	1744	178	1922	9·3
1899	1787	193	1980	9·8
1900	1887	195	2082	9·4
1901	1627	246	1873	13·2
1902	1552	217	1769	12·3
1903	1522	184	1706	10·8
1904	1704	154	1858	8·3
1905	1692	161	1853	8·5
1906	1666	171	1837	9·4
1907	1627	155	1782	8·7

**Annual Rate of Mortality.**—The total number of deaths registered during the year was 1,870, as against 1,832 in 1906, and 1,825 in 1905; of these deaths 86 were of strangers; these being deducted there is left a net total of 1,784 occurring among people usually resident in Derby, but making no allowance for Derby residents who may have died outside the town. The net death rate, therefore, from all causes was 14·2 per 1,000 as against 14·0 in 1906, and 14·3 in 1905. With two exceptions, viz., in the years 1903 and 1906 this is the lowest death rate recorded in the Borough. In the last seven years the rate has been below 15 on five occasions, whilst in the two other years it was very little over 15. I have previously commented on the fact that Derby is a working class community, and if a death rate of under 15 per 1,000 can be maintained, it will be a source of considerable satisfaction.

**Mortality in Age Groups.**—The diseases from which individuals die at different age periods, shows marked variation and a consideration of these varying contributory factors is of interest.

*a. INFANCY.* In Table III. are set out the causes of death among children under the age of one year. These are further subdivided into the weeks of the first month of life, and figures are given for each month until the age of one year. The deaths of 377 infants were registered during the year, as compared with 354 in the previous year. In the sub-division "Wasting Diseases," no fewer than 158 of these deaths are classified; premature birth and debilitated conditions contributing practically equal numbers, viz., 69 and 70 respectively. The next highest totals are convulsions 43, and bronchitis and pneumonia 58; diarrhœa, which is usually such an important factor in this table shows a marked decrease in numbers. Only 18 as compared with 43 in 1906 died in consequence of an attack of this ailment, whilst the allied diseases, enteritis and gastritis caused 14 deaths as compared with 13 in the previous year.

The investigation of the relationship between feeding and the mortality of infants which was begun in 1899, has been continued, and the results are recorded below:—

The total number of children which have been under observation is now nearly 16,000. There have been registered 18,753 children between November, 1900, and November, 1906, the last member of this group attained the age of twelve months in November, 1907. From the total the following deductions must be made:—on account of no visit being made, but in respect of whom no death has been registered, 2,141; and on account of no visit being made owing to death occurring before any information could be obtained, 105. There are also excluded the deaths of 669 children, for the reason that the death could not have been influenced by the manner of feeding, thus 65 of them suffered from some congenital defect incompatible with life, in 149 cases death took place owing to debility and no food had been given; in 449 instances the child was prematurely born, and in six other cases the death was due to some cause not associated with the manner of feeding. These deductions leave a net total of 15,827 children who had been under the direct observation of the women inspectors. Of this number 68 per cent.

*Table IV.—Mortality per 1,000 from Certain Diseases among Children who were Breast-fed or Hand-fed, or who were at first Breast-fed and subsequently Hand-fed (Mixed).*

	Breast-fed.		Mixed.		Hand-fed.		All three classes.	
Number of children.	10649		2360		2808		15827	
Disease.	Number of deaths.	Death-rate per 1,000.	Number of deaths.	Death-rate per 1,000.	Number of deaths.	Death-rate per 1,000.	Number of deaths.	Death-rate per 1,000.
Bronehitis and Pneumonia .. ..	151	14.2	32	13.6	84	30.0	267	16.9
Diarrhœa and Epidemic Enteritis .. ..	87	8.2	51	21.7	158	56.3	296	18.8
Gastritis and Gastro-Enteritis .. ..	13	1.3	7	3.0	25	9.0	45	2.9
Marasmus .. ..	49	4.6	27	11.5	68	24.3	144	9.1
Atrophy and Debility	73	6.9	15	6.4	54	19.3	142	9.0
Tabes Mesenterica ..	11	1.1	3	1.3	16	5.7	30	1.9
Various Abdominal Tuberculoses ..	12	1.2	7	3.0	11	4.0	30	1.9
All other Tuberculous Diseases .. ..	28	2.7	12	5.1	10	3.6	50	3.2
Convulsions .. ..	147	13.9	44	18.7	81	28.9	272	17.1
Dentition .. ..	13	1.3	10	4.3	10	3.6	33	2.1
Zymotic Diseases other than Diarrhœa ..	57	5.4	25	10.6	33	11.8	115	7.3
All other Diseases ..	102	9.6	12	5.1	60	21.4	174	11.0
Totals .. ..	743	69.8	245	103.9	610	217.3	1598	101.0

were breast-fed, 18 per cent. were wholly hand-fed, and the remaining 15 per cent. were partly reared by hand and partly by natural means. That the method of feeding has a very important bearing on the probability of a child surviving to the age of one year, as will be seen from the above table.

The death rate amongst the breast-fed children is 69.8 per 1,000, as compared with 217.3 per 1,000 among those hand-fed, and 103.9 per 1,000 among those only partly breast-fed. It is important also to note that not only is this marked difference to be seen in the general death rate but in every classification there is the same result, the death rate is invariably higher.

*b. OTHER AGES.* At all other ages there were registered 1,407 deaths, and of these 233 were of children between the ages of 1 and 5, 93 at the age period 5 and under 15, 68 between 15 and 25 years of age, 599 between 25 and 65, and 414 at all ages over 65. In the first of these age periods, zymotic diseases were responsible for the largest number of deaths, measles in particular being most fatal, 66 of the 83 deaths being registered at this comparatively early period of life. Whooping cough and diphtheria, 13 and 17, were likewise very fatal diseases. Tubercular diseases other than phthisis, were the cause of 21 deaths, whilst chest ailments were responsible for 49 deaths. The age periods, 5 to 15, and 15 to 25, are noted for being the healthiest, and on the former the chief contributing diseases were diphtheria 33, and tubercular disease affecting other organs than the lungs 10; on the latter, phthisis was the most dangerous ailment as no fewer than 23 out of the 68 deaths were assignable to that cause. This is likewise a dangerous disease at the next age period, and in addition heart diseases 98, cancer 73 and enteric fever 13, show a considerable incidence. In the declining years of life, chest ailments particularly bronchitis 60, heart diseases 68, and cancer 38, are the chief causes of death, whilst the zymotic ailments become practically a negligible quantity.

**District Mortality Rates.**—In Table VI., the various mortality rates which have been recorded in the different wards into which the town is divided are set out. The deaths in public institutions have been relegated to the wards to which the persons belonged before they were removed. On the basis of the general death-rate, the healthiest wards were Osmaston 11.0, Normanton 11.2, and Arboretum 11.3. Rates of below 12 are also recorded in Litchurch and Rowditch Wards. In two wards, Castle Ward and Kings' Mead Ward, there were rates of over 20 per 1,000, viz., 22.6 and 21.4 respectively. Thus Kings' Mead Ward which usually shows the highest rate is relegated to the second position. The high

TABLE VI.—Population, Density, Deaths, and certain Death Rates in the various Wards of the Borough of Derby for the Year 1907.

Wards.	Population in 1901.	Estimated population in 1907.	Acreage.	Density in persons per acre.	Total Deaths.	Death-rate per 1,000 living.	Deaths from seven principal Zymotic Diseases.	Zymotic death rate.	Deaths from Respiratory Diseases exclusive of Phthisis.	Respiratory death rate.	Deaths from Phthisis.	Phthisis death rate.	Number of deaths of infants under 1 year.	Deaths of infants under 1 year of age per 1,000 births.
Abbey	8,747	9,580	285	34	136	14.2	32	3.4	26	2.8	7	0.8	40	146
Arboretum	8,889	9,735	122	80	110	11.3	13	1.4	9	1.0	7	0.8	14	73
Babington	8,447	9,251	134	69	114	12.4	13	1.5	25	2.8	6	0.7	11	79
Becket	7,297	7,991	102	79	117	14.7	6	0.8	24	3.1	8	1.1	31	193
Bridge	5,081	5,564	229	25	68	12.3	7	1.3	8	1.5	7	1.3	9	67
Castle	7,786	8,527	112	76	192	22.6	17	2.0	30	3.6	13	1.6	47	210
Dale	4,785	5,240	269	20	84	16.1	6	1.2	10	2.0	4	0.8	18	83
Derwent	4,933	5,402	907	6	79	14.7	12	2.3	11	2.1	3	0.6	18	115
Friargate	8,516	9,326	176	53	114	12.3	19	2.1	11	1.2	7	0.8	25	115
King's Mead	7,064	7,736	90	86	165	21.4	25	3.3	24	3.2	17	2.2	35	197
Litchurch	8,474	9,280	462	21	106	11.5	7	0.8	24	2.6	10	1.1	16	103
Markeaton	7,200	7,885	151	53	122	15.5	17	2.2	13	1.7	8	1.1	34	156
Normanton	7,225	7,912	106	75	88	11.2	17	2.2	9	1.2	3	0.4	16	71
Osmaston	5,429	5,945	1,381	5	65	11.0	8	1.4	9	1.6	4	0.7	20	103
Pear Tree	6,930	7,590	392	20	121	16.0	14	1.9	23	3.1	11	1.5	26	96
Rowditch	8,045	8,810	354	25	103	11.7	6	0.7	13	1.5	6	0.7	17	96
*Institutions	...	...	...	...	400	...	31	...	38	...	28	...	...	...
Non-Residents	...	...	...	...	88	...	1	...	7	...	3	...	7	...
†Totals	114,848	125,774	5,272	24	1,784	14.2	219	1.8	269	2.2	121	1.0	377	120

\*The deaths in Institutions have been relegated to the various Wards.

†Excluding Non-Residents.

death-rate in each of these wards is in considerable measure contributed to by the high death-rate among children. The infantile mortality in the town as a whole was 120 per 1,000 births, but in the former ward it was 210, and in the latter 197. Infantile mortality rates of below 80 are noted in Bridge 67, Normanton 71, Arborctum 73, and Babington 79. These rates emphasise most strongly the waste of infant life which is taking place in the wards just referred to. In King's Mead Ward the phthisis death rate is more than double that recorded in the town as a whole, and more than five times the rate in Normanton. The phthisis rate is also high in Castle Ward, being four times that in Normanton Ward; but strange to say Pear Tree Ward which is co-terminous with the latter, has the unusually high rate of 1.5, it is probably an exceptional occurrence, and this comparison would not hold if rates extending over a period of years were compared so as to eliminate the error which fewness of numbers renders possible. The respiratory rate is also high in Pear Tree Ward as it is in Castle and King's Mead Wards. The highest zymotic rate is recorded in Abbey Ward, and this is chiefly due to the heavy incidence of the measles and diphtheria epidemics on that ward. The same diseases are chiefly responsible for the high zymotic rate recorded in King's Mead and Markeaton Wards.

**Inquests.**—I am informed by the Borough Coroner that the number of Inquests held by him during the year ended December 31st, 1907, was 177, being made up by 108 held on males, and 69 on females. There were no unregistered deaths in the Borough; the cause of every death was certified by a medical practitioner or by the Coroner.

**Mortuary.**—The Coroner's Officer, Mr. John Dexter, informs me that the number of dead bodies which were received into the Mortuary during 1907 was 13, and that two post-mortem examinations were conducted in the building during the year. The building may now be considered as in a satisfactory condition.

**The Notification of Infectious Diseases.**—The total number of cases of infectious diseases notified in accordance with the requirements of the Infectious Diseases Notification Act of 1890, was 1,095, as compared with 1,049 in the previous year.

The highest and lowest weekly incidences were as follows:—

Week ending, 1907.				Cases notified.
30th November	...	highest number	...	39
8th July	...	lowest number	...	9

The following summary gives particulars of these various diseases:

**Cases of Infectious Disease notified during 1907.**

Quarters.	Totals.	Small Pox.	Scarlet Fever.	Diphtheria.	Continued Fever.	Enteric Fever.	Erysipelas.	Puerperal Fever.	Membranous Croup.
First ...	256	...	33	159	...	31	33	...	...
Second	206	...	43	116	...	16	27	3	1
Third ...	203	...	46	124	...	3	30	...	...
Fourth...	322	...	54	202	...	24	38	4	...
Year ...	987	...	176	601	...	74	128	7	1

Table VI. gives information respecting the notification of infectious diseases in previous years. It will be observed that the number notified last year was well above the average, the increase being chiefly due to the excessive incidence of Diphtheria, and an increase in the number of cases of Enteric Fever, and Erysipelas.

In dealing with these cases the following action was taken:—

	Quarters.				Totals.
	First.	Second.	Third.	Fourth.	
Number of visits made by Inspectors	893	757	740	1216	3606
Cases isolated. Borough Hospital:—					
Scarlet Fever ... ..	24	33	32	19	108
Diphtheria ... ..	2	...	24	28	54
Cases isolated. Royal Infirmary:—					
Diphtheria ... ..	19	8	2	...	29
Enteric Fever ... ..	19	6	2	18	45
Erysipelas ... ..	2	3	...	...	5
Puerperal Fever ... ..	...	...	...	...	...
Cases willing to be isolated but for which no room could be found ...	27	29	17	32	105
Cases in which isolation was delayed	7	5	4	6	22
Number of rooms fumigated ... ..	232	178	203	265	878

TABLE VII.—Number of cases of Infectious Disease notified in the Borough of Derby during 1907, and in each year since 1881.

DISEASES.	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Small Pox ...	46	15	2	7	...	...	...	20	...	5	...	11	52	3	94	1	1	...	...	1	1	8	48	210	123	...	...
Scarlet Fever .	423	770	506	389	232	167	64	756	775	346	318	470	501	513	364	427	432	481	885	602	616	332	185	638	535	290	181
Phthiria ...	6	10	8	...	1	6	27	23	46	81	66	67	50	46	43	45	57	74	60	52	74	63	83	150	271	561	606
Membranous } Group ...}	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	...
Bacterial & Con. } Fever ...}	95	113	51	344	57	162	105	163	99	64	66	55	111	104	99	104	125	159	141	125	114	85	64	64	44	71	74
Phus Fever	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	6	6	7	11	2	1	1	3	5	1	8	9	11	7	10	3	3	6	8	7	10	13	14	16	13	11	7
Phthisis*	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67	52	88	135	138	89	113	128
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	56	105	103	82	111	99
Totals ...	577	914	574	751	292	336	197	965	925	497	458	612	727	673	610	580	618	720	1094	854	867	645	634	1319	1158	1160	1095

In addition to the above, the following cases of Measles were also notified during short periods of voluntary notification :—1884, 513 cases ; 1887, 874 cases ; 1888, 33 cases ; also 34 cases of Scarlet Fever, and 3 cases of Enteric Fever from the annexed areas during 1901.

\* Phthisis became a notifiable (voluntarily) disease in July, 1902

**Hospital for Infectious Diseases.**—The staff as at present constituted consists of a resident medical officer, a sister in charge, two staff nurses, eight probationer nurses, and four ward-maids. There is also a caretaker and his wife who acts as housekeeper, a laundry-maid, and three maids who perform duties in the administrative block. Additional help is given by two women and two men who attend daily. This outside assistance is necessary for help in the laundry and work in the boiler house and grounds.

Until this year accommodation at the Isolation Hospital was provided for cases of scarlet fever and small-pox only, enteric fever and diphtheria being treated in the wards of the Royal Infirmary. It was, however, mentioned in my last Annual Report that notice had been given to the Sanitary Committee by the Infirmary Authorities that no further cases of diphtheria would be admitted into that institution. It was therefore found necessary to make arrangements for the reception of patients suffering from diphtheria in the Isolation Hospital. To effect this, a portion of the observation block was accordingly fitted up as two wards for diphtheria patients, the remainder of this block being transformed into cubicles for the reception of cases of mixed infection for isolation.

As diphtheria cases require special medical attention, and as urgencies frequently arise, the Sanitary Committee decided to appoint a resident Medical Officer at the hospital to co-operate with myself in the treatment of patients. The gentleman appointed took up his duties on June 1st of this year.

All arrangements being completed, the first case of diphtheria was admitted to hospital on July 10th. The method employed for admission of a patient suffering from diphtheria is as follows:—

A card is left at the house by the Sanitary Inspector, whose duty it is to visit and report on the case. He ascertains and records the following particulars:—

1. The date of onset of illness.
2. Number of Children in family.
  - (a) who have had diphtheria.
  - (b) who have not so suffered.
3. As to the injection of antitoxin, and
4. Name of medical attendant.

On the back of the card, the medical man in charge of case attests his opinion by signature, that the patient can be moved to hospital without undue risk. This signature must be obtained by the relatives, who then send the card, so signed, to the Health Offices; after inspection it is then returned to the house, and as soon as may be practicable, arrangements are made for removal of the case. On arrival of the ambulance, the nurse in charge collects this card and gives in exchange a hospital visiting card, which is as follows:—

COUNTY BOROUGH OF DERBY.

HOSPITAL VISITING CARD.

Case No.

DIPHTHERIA.

1. Diphtheria cases are classified as follows:—

Very Ill.                  Ill.                  Progressing Satisfactorily.

2. Patients classified as “very ill” may be visited at any time. Enquiries should be made as to the hour most convenient to the management.

If patients are classified as “ill” parents may interview the doctor at the Hospital any day at 9.0 a.m. or at 2.0 p.m. If considered desirable, permission to visit the patient will then be granted.

If patients are classified as “progressing satisfactorily” visits will be restricted to between the hours of 3 and 4 o'clock on Saturday afternoons.

3. Visitors who have permission to enter a ward must not enter until clothed in a special coat which will be provided.

4. Visiting is restricted to the nearest relatives of the patient; only two persons are admitted at any one time.

5. Visitors must not roam about the grounds, but must confine their movements to the outside of the ward in which the patient visited is located.

6. *This ticket must be delivered up to the Nurse at the time the patient is discharged.*

Name and Address of Patient.....

Admitted.....190.....

The thanks of the Committee are due to the Editors of the Local papers, who daily make enquiries as to the condition of the patients and report same in that day's issue of the paper, each patient being referred to under the hospital number.

A very similar method of procedure is employed in the removal of cases of scarlet fever.

It has already been mentioned that part of the old observation block was reconstructed as six cubicles. These cubicles were ready for use about the middle of July, the first case being isolated in them on August 3rd. During this past year, nineteen cases have been so isolated for longer or shorter periods.

The value of these cubicles can hardly be over-estimated, for among the difficulties which arise in the administration of fever hospitals may be numbered those created by the introduction into a ward of a patient incubating a disease in addition to that for which he has been removed for isolation. This materially interferes with the accommodation as it is necessary to remove such a patient from the general ward and give him separate isolation, thus frequently necessitating the closure of any number of beds up to a dozen. Cases of "crossed" infection, or such as suggest doubt as to the diagnosis present the same difficulties. Now that diphtheria patients are admitted into the Borough Hospital, these difficulties have been increased, and an attempt has been made to deal with the matter by the conversion of one of the smaller pavilions into separate cubicles in which such cases may be treated.

The scheme is as follows: the ward block may be regarded as consisting of three divisions, a small central room which is used as a kitchen, and two lateral portions in which the patients are treated. The kitchen does not directly communicate with the wards except by passing into the open air through one of the two doors which are provided. Fixed windows are let into the walls between the kitchen and the two wards which permit of supervision being maintained. The lighting is likewise regulated from the kitchen. The larger ward is capable of accommodating four patients on a basis of 2,000 cubic feet bed. It is divided longitudinally into two halves by an air-tight partition running the whole length of the ward. The lower three feet of this partition

consists of concrete blocks which are covered with cement and superimposed on these are large sheets of plate-glass of about the size of those seen in the largest shop windows. The continuity of the glass is not broken except so far as is required by the framework which holds it in position. Each of these two divisions is again divided into two by a partition running at right angles to the former one, and like it composed of concrete below and plate-glass above. Four divisions are thus obtained, each quite separate from the other, and possessing no means of intercommunication except through the open air. Each is entered by a separate door, the position of the doors having been arranged so as to obtain the maximum distance between each and the minimum of air current between one and the other. Outside each cubicle is a lavatory basin, and near each door are placed the special overalls for use in the particular cubicle. Each is warmed by a radiator heated by steam under pressure and regulated by a stop-cock which enables only those in actual use to be heated. The ventilation is by windows, special roof extractors, and, of course, the open door. The inside corners are all rounded off and the surface is finished with ripoline, the upper part being tinted greenish blue, and the lower part white. Each patient is provided with the usual ward requirements, and the lighting is by means of two electric lamps, one for ordinary illumination and one of low candle power for use during the hours of sleep.

The advantage of such a block is, that diseases presenting the conditions referred to above may be treated in these small separate wards instead of being placed in a larger ward containing several beds, all of which in consequence have to be left unoccupied. The patients although separately isolated are in full view of each other, and thus the lonesomeness of the situation is minimised. It also does not make such heavy calls on the nursing staff as was formerly the case. The other half of the block is similarly constructed, and is capable of accommodating three patients on the same allowance. There can be no doubt that the efficiency and utility of the Hospital has been materially improved by this latest addition.

Your Sanitary Committee also undertook the building of a two-storied cottage in the grounds of the Hospital, to provide accommodation for the caretaker and his wife, to contain also a bacterio-

logical laboratory, and a waiting room for persons making enquiries and visiting patients. The first floor of this cottage consists of a hall giving access to a kitchen, a parlour for the caretaker, and the waiting-room for the visitors, also the laboratory which is shut off from the rest of the building, access to it being reached by an outside door.

The second floor contains four bedrooms and a bathroom.

The bacteriological laboratory is being fitted with all apparatus and appliances necessary for the detection of the *Kleb-Loeffler* bacillus on the swabs taken from the throats of patients suspected to be suffering from diphtheria. The examination of sputum of persons suspected of phthisis will also be undertaken as well as the Widal test for enteric fever. This laboratory will prove a very valuable addition to the efficiency of the isolation hospital.

The total cost of this cottage including laboratory and waiting-room has been £620.

No cases of small-pox have been admitted during the past year as fortunately the town has been free of the disease. It is, however, necessary to point out that special provision for the isolation of small-pox will be necessary in the future, as in previous years cases of this disease were isolated in the old observation block which has now been re-constructed as diphtheria wards and cubicles.

The following statistics have reference to the patients under treatment during the past year:—

	Scarlatina. Diphtheria.	
Remaining in Hospital, December 31st, 1907	... 13	—
Admitted during 1907	... 108	54
Total Number treated during 1907	... 121	54
Number discharged during 1907	... 116	46
Number who have died in Hospital during 1907	... 3	6
Remaining under treatment on December 31st, 1907	5	8

An analysis of the cases of Scarlet Fever with respect to certain complications of the disease shows that

3	cases	suffered	from	discharge	from	both	ears,
2	"	"	"	"	"	"	(ehronie),
5	"	"	"	"	"	one	ear,
3	"	"	"	"	"	"	and enlarged glands,
1	"	"	"	enlarged	glands,	mastoid	abseess and albuminuria,
10	"	"	"	"	"	only,	
3	"	"	"	rheumatism	with	heart	complications,
1	"	"	"	heart	complication	only,	
2	"	"	"	rheumatism	only,		
2	"	"	"	"	and	albuminuria,	
2	"	"	"	"	enlarged	glands,	
2	"	"	"	whooping	cough,		
1	"	"	"	post	scarlatinal	diphtheria.	
1	"	"	"	scarlet	fever	during	an attack of chicken-pox.
1	"	"	"	measles.			

Three cases were admitted from the wards and two from the out-patient department of the Royal Infirmary. One of these cases from the wards and one from the out-patient department were cases of surgical scarlet fever following on burns.

Two cases of scarlatina were admitted from the Children's Hospital. This assistance was granted to them on account of their limited accommodation for isolation during a time that several wards were closed for painting, etc

With respect to the 54 cases of diphtheria admitted during the past year, anti-toxin was injected in 23 instances. In 29 others anti-toxin had been injected previous to admission and further injection was not found necessary. Two received no anti-toxin.

As a preliminary to the discharge of diphtheria patients from hospital a swabbing of the throat was obtained which showed an absence of the Klebs-Loeffler bacillus.

## Hospital Provisioning, 1907.

1907.	Days of treatment.	Average Patients per day.	Cost of Provisioning.	Average Cost per Patient per day.*
			£ s. d.	s. d.
1st Quarter	1214	13·5	111 15 10½	1 11
2nd „	1935	21·3	118 3 9	1 3
3rd „	2159	23·5	139 11 9	1 4
4th „	2210	24·0	152 1 8	1 5
Totals 1907	7518	20·6	521 13 0½	1 5
Totals for pre- vious year	8,988	24·7	518 12 5½	1 2

\*This includes cost of provisioning staff, but does not include working days of staff.

## Mortality from Zymotic Diseases:—

Zymotic Mortality during the past five years.

Years.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000	1·66	0·9	1·4	1·5	1·6	1·8	1·25	1·54

The total deaths registered as occurring within the Borough from this class of disease was 220, in which number there is included the death of a stranger from diphtheria, brought into the town for treatment. These 219 deaths are equivalent to a death-rate of 1·8 per 1,000. This is the highest total since the year 1901. In the year 1903, the lowest zymotic death-rate recorded in the Borough, was noted, but since then there has been a tendency in the direction of increase. The diseases which are included under this total and which are usually designated the seven principal zymotic diseases are small-pox, measles, scarlet fever, whooping cough, diphtheria, enteric fever and diarrhoea, those which contributed chiefly to the increased mortality in 1907 were measles, diphtheria and whooping cough. Each of these diseases will receive separate consideration, and in the appendix will be found details

referring to the ward distribution of these cases as well as the numbers which have been isolated and treated in the hospital. The comparison of the mortality with previous years as well as with the mortality recorded in the 76 great towns, and with England and Wales is set out in the above tabulation.

### Smallpox :—

Mortality from Small Pox during the past five years.

Year.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000.	0·01	0·02	0·03	0·02	nil.	nil.	0·0	0·0

No case of small-pox was notified during the year 1906, the last case treated in the wards of the Borough Hospital was discharged on September 25th, 1905.

**Vaccination.**—I am indebted to Mr. Arthur W. Pegge, the Vaccination Officer of the Derby Union, for the following particulars relating to vaccination:—

Total Number of Births...	...	Derby	2854	} 3188
		Osmaston	334	
Children whose births were registered in 1907, and who died unvaccinated	...	...	...	283
Children under 12 months of age, including those registered in 1907, who died unvaccinated	...	...	...	383
Insusceptible	...	...	...	1
Postponed Cases on December 31st, 1907	...	...	...	46
Total Number of Exemption Certificates received from all sources	...	...	...	363
Cases removed and notice of removal sent to other offices	...	...	...	41
Cases lost or addresses wrongly registered	...	...	...	226

### Successful Vaccinations:—

Certificates of successful vaccinations received in respect of children whose births were registered in 1907	...	...	...	...	...	333
Certificates of successful vaccination received of children under 14 years of age, in addition to those received above	...	...	...	...	...	158

Mr. W. H. Whiston informs me that the number of exemption certificates granted under the Vaccination Act during the year 1907 to persons resident within the Borough was 351, as compared with 289 in 1906.

### Scarlet Fever:—

Mortality from Scarlet Fever during the past five years.

Years.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000.	0·11	0·07	0·03	0·09	0·04	0·03	0·09	0·12

The number of cases of scarlet fever notified during 1907 was 181, and it is satisfactory to note that this is the lowest number for twenty years. The chief difficulty which was experienced in respect of this disease resulted from the fact that during the late spring and early summer, an epidemic of german measles overran the town, and considerable care had to be exercised in admitting patients into hospital who were said to be suffering from scarlet fever. The type of the former disease was such that in many instances it closely simulated scarlet fever, and many of the cases notified as being the latter disease were undoubtedly the former. As regards the distribution of the disease, it was most prevalent—as last year—in Osmaston Ward, but in no other ward were twenty cases reported, the nearest being 19 from the Pear Tree district. There were 4 deaths, the same as last year, attributed to the disease, three being under five years of age; two of the fatal cases were from Normanton. The extreme mildness of the type is proved by this low case fatality, and the general mortality compares as would be expected, most favourably with the ten years' average in this town, and with that recorded in the great towns and in the country as a whole.

As regards age incidence, the great proportion 113 out of 181 were of children of school age, viz., 5 to 15, whilst of the remaining 68 cases, 50 were attacks of children between the ages of 1 and 5. There were 108 of the cases removed to the Borough Isolation Hospital for treatment, and 3 deaths occurred among these cases.

**Measles :—**

Mortality from Measles during the past five years.

Year.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000.	0·32	0·04	0·12	0·37	0·02	0·62	0·36	0·43

The fact that 80 deaths were registered from measles indicates that a most wide-spread epidemic overran the town during the year. These periodical outbursts of measles are very difficult to deal with, and I have, in consequence, reported fully on this subject in the section on "School Hygiene." In my opinion the most important preventive feature of a measles epidemic is its relationship to school attendance. The apathy with which parents regard an attack of measles is astonishing, and the fact that 80 deaths occurred in one year as compared with 52 from diphtheria in the worst year of which I have any records, and from a disease which is rightly regarded as most dangerous, should do much to remove this mistaken idea. The death totals show that children between the ages of 1 and 5 chiefly contributed to this mortality, no fewer than 66 out of the 80 were of children between those ages.

**Whooping Cough :—**

Mortality from Whooping Cough during the past five years.

Year.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000.	0·33	0·27	0·23	0·17	0·24	0·18	0·29	0·35

This is another disease which is characterised by epidemics periodically, and is always accompanied by a high rate of fatality, particularly among the very young. So far our preventive measures have done very little in the way of reducing either prevalence or fatality, and it is unfortunately a disease which, with measles, is often regarded as an inevitable disease from which all children must sooner or later suffer. No doubt the extensive character of the outbreaks and the extreme susceptibility to attack of children unprotected by a previous attack, have given rise to the idea. The measure on which I rely for future success is educational, and I distribute circulars which describe the earliest symptoms of the onset of the disease, and the measures which should be adopted first to prevent its spread when a child is known to be attacked, and

secondly, the general lines of treatment which minimise the risk of a fatal issue in case of attack. The fact the disease is more fatal in early life than in later years is the argument for postponing by every possible effort the year of attack, for every year that this can be avoided increases most considerably an individual's probability of recovery in case he should ultimately sicken from the disease. There were 23 deaths registered from this disease as compared with 29 and 20 in each of the two preceding years. All the deaths in 1907 were of children below the age of 5 years. These deaths, however, do not represent the full toll which childhood pays to whooping cough, for this disease frequently lays the foundation of future lung mischief such as phthisis or pneumonia.

### Diarrhœa :—

Mortality from Diarrhœa during the past five years.

Year.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby	England and Wales.	76 Great Towns.
Rate per 1,000.	0·64	0·38	0·68	0·61	0·63	0·34	0·29	0·40

The deaths from diarrhœa, which includes the various epidemic disorders of the intestinal tract in infants numbered 42 as compared with 78 and 73 in each of the two preceding years. Thirty two of these deaths were of children under the age of one year. This disease is most fatal at the extremes of life, but particularly the earlier, and the returns show that between the ages of 5 and 65 no persons suffered from a fatal attack of this disease, but at ages over 65, it caused 6 deaths. In addition to the diarrhœa deaths, there were 6 deaths registered due to enteritis. The preventive measures have been fully discussed in previous reports and these have been continued during the year under review. Various comparisons with previous years and with the mortality recorded in other towns are set out above.

### Diphtheria :—

Mortality from Diphtheria during the past five years.

Year.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000.	0·2	0·07	0·25	0·19	0·52	0·42		0·17

The prevalence of diphtheria which has been referred to in the last two reports, still continues, and in the year under review, 606 cases were notified as against 562 in the previous year. I believe, however, that at the time of writing this report the decline is commencing, and I hope that the forecast will be found correct. Although more cases were notified, fewer deaths resulted, the figures being 52 in 1907, as compared with 64 in 1906, the corresponding death-rate being 0.42 and 0.52. The case fatality, or the deaths per 100 attacks, was 8.3 in 1905, this rose to 11.3 in 1906, and last year it had again declined to 8.8. The age distribution of the notified cases and the resulting fatal cases shows that under 1 year of age there were 3 cases with no deaths,

between the ages of 1 and 5 yrs. there were 111 cases with 17 deaths

„	„	5 and 15	„	„	392	„	„	33	„
„	„	15 and 25	„	„	65	„	„	1	„
„	„	25 and 65	„	„	35	„	„	1	„

there were no cases notified over 65 years of age. These figures show that the most fatal age of attack is between 1 and 5 years of age.

The distribution of the cases, as last year, was fairly general throughout the town; the relationship to the various wards of the notified cases and those resulting fatally is set out in the following tabulation:—

Ward.		Cases.	No. Isolated.	Total Deaths.
Abbey	... ..	76	9	7
Arboretum	... ..	48	4	6
Babington	... ..	46	9	5
Becket	... ..	22	6	2
Bridge	... ..	11	1	0
Castle	... ..	43	10	3
Dale	... ..	58	5	2
Derwent	... ..	28	11	4
Friar Gate	... ..	47	4	6
King's Mead	... ..	15	3	4
Litchurch	... ..	31	5	2
Markeaton	... ..	34	5	0

Ward		Cases.	No. Isolated.	Total Deaths
Normanton	...	37	1	4
Osmaston	...	17	1	2
Pear Tree	... ..	37	5	5
Rowditch	...	56	4	0
Totals		606	83	52

In three wards it will be observed there were no deaths. The causes contributing to this prevalence of diphtheria have been discussed in previous reports, and the same factors are still in operation. The chief variation in the method of dealing with the disease has been the opening of the isolation hospital in June for the treatment of cases of diphtheria, and the distribution from house to house throughout the greater part of the town of a handbill of which the following is a copy:—

## COUNTY BOROUGH OF DERBY.

### DIPHTHERIA.

#### Precautions which should be Observed.

Diphtheria is a dangerous Infectious Disease, and every effort should be made to prevent its spread in any household which has been infected.

Healthy children should be kept strictly away from the patient.

Children from a house in which there is a case of diphtheria, must not attend day or Sunday school until seven days after the house has been disinfected, or for the same period after the child has been removed to Hospital.

All cases of "sore throat," "croupy cough," or "lumps in the neck," occurring in an infected household, are probably diphtheritic, and should be immediately reported to the Medical Attendant.

If any books borrowed from a Public Library are in the house, the fact should be reported to the Sanitary Inspector who will have them disinfected. No books should be returned until after they have been disinfected.

If the case is treated at home the patient must be confined to one room, and no one except the person in charge allowed to enter the room. All unnecessary furniture should be removed from the sick room, and the floor and furniture should be frequently wiped with a damp cloth. Fresh air must be freely admitted, a fire being lighted if necessary.

Persons attending to the wants of the patient should wear washable dresses, and should wash their hands immediately after attending the sick person, and should always wash their hands and faces and change their shoes and outer clothes before going off duty.

No domestic animals should be allowed to enter the sick room.

A patient suffering from this disease is generally DANGEROUS TO OTHERS for a period of at least three weeks, and must not be allowed to mix with other people during that period, or while there is any sore throat, or any discharge from ear or nose.

#### Disinfection.

1. All soiled linen should at once be placed in a tub of water to which a handful of ordinary washing soda has been added, soaked for 12 hours, and then boiled in a copper. Materials which cannot be boiled should be soaked for one hour in liquid disinfectant, and then washed.

2. Special cups, saucers, and spoons should be used for the patient, and any spare food from the sick room destroyed.

3. Discharges from ear, nose, and mouth should be received on a rag which should be at once burnt, as also should any dust collected in the room.

4. When the patient is free from infection the Corporation will undertake the disinfection of the sick room. The accompanying card signed by the Medical Attendant should be returned when the patient is free from infection.

Disinfectants are supplied free to cases treated at home.

Public Health Department,  
Ford Street, Derby.

Medical Officer of Health.

A Penalty of £5 is attached to the Exposure of Infected Persons  
and Things.

Advantage has been taken of the facilities for bacteriological and examination of throat swabbings to the following extent:—

Swabbings taken to confirm diagnosis: Positive 8 ... Total 46  
Negative 38

Swabbings taken to ascertain whether  
a patient was free from infection: Positive 24 ... Total 114  
Negative 90

280 vials of anti-toxin have been given to practitioners for use in cases of diphtheria.

**Antitoxin Statistics.**—For some time past it has been my practice to keep a record of the cases in which antitoxin has been administered, and the following particulars relating to 601 cases under observation during the past year may be of interest. It is important to note that among the cases in which the serum was not used is included a large number of very mild cases and so the comparison as regards the fatality of cases in which it was and was not used is rendered valueless.

In 258 cases no antitoxin was used, among these there occurred 18 deaths, one being at the Hospital, the child being practically moribund on admission.

The following table relates to cases in which the serum was used:—

Day of Illness ...	1st Day.	2nd Day.	3rd Day.	4th Day.	5th Day.	6th Day & over.	Totals.
Number of Cases	26	84	77	85	35	36	343
Deaths ...	1	6	7	6	5	5	30

### Enteric Fever:—

Mortality from Enteric Fever during the past five years.

Year.	Ten Years' Average.	1903	1904	1905	1906	1907.		
						Derby.	England and Wales.	76 Great Towns.
Rate per 1,000.	0·11	0·6	0·05	0·08	0·10	0·15	0·07	0·07

There were 74 cases of enteric fever notified during the year as compared with 70 in 1906. Although the cases only show an increase of 4, the deaths were 7 in excess, i.e., 18 as compared with 11. This represents rates of 0.15 and 0.10 for the respective years. This rate is higher than that recorded either in England and Wales or the 76 great towns. It is about equal to the average of the last ten years in this town. The type of the disease has apparently been more severe as the case fatality in 1907 was 24.3 per cent. as against 15.7 per cent. in 1906. The greatest number of cases was reported from Castle Ward, no fewer than 12 belonged to that district, whilst Derwent Ward with 10 cases had the next greatest incidence. The excess in the case of Derwent Ward was due to the continuance of the localised outbreak at the Cemetery end of Nottingham Road, which was referred to in the last report, and in the case of Castle Ward to the six attacks in one household; in both cases personal infection played a considerable part in the spread of the disease. In Abbey, Becket, Bridge and Osmaston Wards, only one case was reported. The age incidence of the disease shows that persons between 25 and 65 were most numerous attacked, as 35 cases were notified at that age period. There were none among persons over 65 years of age. Between the ages of 1 and 5 there were 2 cases, between 5 and 15, 20 cases, and at the age period of 15 to 25 there were 17. The age period at which the attacks proved most fatal was 25 to 65, for the 35 cases had a fatal termination in no fewer than 14 instances, thus leaving only 4 deaths to be distributed among the remaining ages.

As in previous years, I have attempted a classification of the causes to which the onset of the disease has been more or less reliably attributed, and it will be seen that the number of instances in which gross defects were discovered has continued to be a decreasing quantity. On the other hand, instances of direct infection have been correspondingly numerous, and the association of some article of food with the attack has also been a more important factor than in the last few years. Those unsatisfactory cases—at any rate unsatisfactory from the investigation point of view—in which it was impossible to make any suggestion as to the origin of the infection were fairly numerous.

TABLE X.—An Analysis of the Cases of Enteric Fever notified during the year 1907.

A—Cases in which Sanitary defects were prominent.

Progressive No.	Age	Sex	Sanitary Conveniences.				Nuisances.	Remarks.
			W.C.	Pail.	Privy.	Privy Cesspool.		
12	12	M.	..	..	1	..	.. .. .	Sequence of illness. Influenza preceded Enteric Fever.
94	22	F.	..	..	1	..	Privy and ashpit iron traps to drains.	Notice served to remedy.
99	62	F.	..	..	1	..	Privy and ashpit iron traps to drains.	Notice served to remedy.
245	29	F.	..	..	1	..	Offensive ashpit iron D. traps.	Notice served to remedy.
286	33	F.	..	..	1	..	Well trapped drains.	Notice served to remedy.
723	47	M.	..	..	1	..	Defective drains.	Notice served to remedy.
755	40	F.	..	..	1	..	Defectively trapped drains.	Notice served to remedy.
767	47	M.	..	..	1	..	Defectively trapped drains.	Notice served to remedy.
802	28	M.	..	..	1	..	Soft water pump out of order.	Notice served to remedy.
803	10	F.	..	..	1	..	Defectively trapped drains.	Notice served to remedy.
817	23	M.	..	..	1	..	Privy and ashpit.	
90	9	F.	..	..	..	1	Offensive privy vault. No ash receptacles.	Notice served. Dirty house.
59	11	F.	..	1	..	..	Tub closet. Fair district.	Just recovered from diphtheria.
70	33	F.	..	1	..	..	Tub closet. Poor district.	
263	34	M.	..	1	..	..	.. .. .	Indefinite illness.

Cases associated with a previous case.

30	8	F.	1	..	..	..	.. .. .	One of series reported upon last year in the Nottingham Road district.
67	25	F.	1	..	..	..	.. .. .	Nurse engaged on typhoid nursing.
76	43	M.	1	..	..	..	.. .. .	Sister convalescent from Enteric.
105	26	F.	1	..	..	..	.. .. .	Sister of case 30.
107	13	F.	1	..	..	..	.. .. .	Infection from sister. Case 87.

Progressive No.	Age	Sex	Sanitary Conveniences.				Nuisances.				Remarks.
			W.C.	Pail.	Privy	Privy Cesspool.					
130	43	M.	1	..	..	..	..	..	..	..	From ease 993 last year.
138	52	F.	..	1	..	..	..	..	..	..	Nursed sister-in-law. Case 70.
141	42	F.	1	..	..	..	..	..	..	..	From ease 993 last year. Mother.
169	25	F.	1	..	..	..	..	..	..	..	Nurse engaged on typhoid nursing.
209	15	F.	1	..	..	..	..	..	..	..	From ease 141. Daughter nursed mother.
271	5	M.	1	..	..	..	..	..	..	..	From Sister. Case 272.
281	12	F.	1	..	..	..	..	..	..	..	From ease 105. Series reported upon in last year's report.
901	39	M.	1	..	..	..	..	..	..	..	See special account of this series in the present report.
902	17	F.	1	..	..	..	..	..	..	..	
903	15	F.	1	..	..	..	..	..	..	..	

See also under series of cases associated with illness in the house.

*Cases associated with some Article of Diet.*

17	32	M.	..	..	1	..	Privy and ashpit.				Eats freely of uncooked mussels. Notice served for defects.
168	22	F.	1	..	..	..	..	..	..	..	Eats uncooked mussels. Contact with typhoid ease.
548	25	M.	1	..	..	..	No nuisance observed.				Very partial to watercress.
786	13	M.	1	..	..	..	No nuisance observed				Partakes freely of mussels.
791	35	F.	1	..	..	..	No nuisance observed.				Partakes freely of watercress.
805	40	M.	1	..	..	..	..	.	..	..	Ate freely of uncooked mussels three weeks ago.
836	13	M.	1	..	..	..	..	..	..	..	Eats mussels cooked
980	29	M.	1	..	..	..	..	..	..	..	Frequently eats uncooked mussels.
74	30	F.	1	..	..	..	..	..	..	..	Partook of oysters but did not complain.

*Visits to other towns.*

Progressive No.	Age	Sex	Sanitary Conveniences.				Nuisances.	Remarks.
			W.C.	Pail.	Privy.	Privy Cesspool.		
10	34	M.	1	..	..	..	No nuisances observed.	Just returned from America.
467	19	M.	1	..	..	..	„	Drank water from a brook in the country.
667	40	M.	1	..	..	..	„	Attends race meetings all over country.
685	37	M.	1	..	..	..	„	Various country districts.

*Cases in which no suggestion as to Infection was made.*

4	45	F.	1	..	..	..	No nuisances observed.	New drains this year.
9	40	M.	1	..	..	..	„	Drains well trapped and clear.
73	23	M.	1	..	..	..	„	Cattle slaughterman.
87	7	F.	1	..	..	..	„	Influenza illness.
103	16	M.	1	..	..	..	„	Patient uses a lot of plumbago.
145	22	M.	1	..	..	..	„	Convalescent from influenza.
248	22	M.	1	..	..	..	„	Drains well trapped and clear.
266	3	F.	1	..	..	..	„	Convalescent from diphtheria.
272	13	F.	1	..	..	..	„	
303	6	M.	1	..	..	..	„	Dirty yard.
331	24	F.	1	..	..	..	„	
365	6	F.	1	..	..	..	„	
367	4	M.	1	..	..	..	„	
393	32	F.	1	..	..	..	„	Drains well trapped.
398	15	M.	1	..	..	..	„	Same patient had Enteric 9 years ago.
422	45	F.	1	..	..	..	„	
438	49	M.	1	..	..	..	„	Everything satisfactory.
456	13	M.	1	..	..	..	„	Complaint of smells from sewer gratings.
464	17	M.	1	..	..	..	Nothing objectionable noted.	
613	35	M.	1	..	..	..	„	
765	11	F.	1	..	..	..	No nuisance.	No complaints.
804	21	F.	1	..	..	..	„	Complained of street gullies.
850	19	M.	1	..	..	..	„	
851	10	M.	1	..	..	..	„	
944	47	M.	1	..	..	..	„	
991	9	M.	1	..	..	..	„	

*Cases associated with other suspicious illness in the same family.*

The following instances were brought to my notice of persons suffering from enteric fever subsequent to an attack of a more or less indefinite illness having occurred among members of the same family. In some, at any rate, it appears highly probable that the original attacks were those of enteric fever.

Cases 1,000 and 1,001.—Mrs. C. and Mrs. T., both residing in the same house, were notified on the same day as suffering from enteric fever. Nearly two months previously the husband of Mrs. C. had died, the cause of death being certified as enteritis and heart disease. Diarrhoeal illness was stated to have been severe. About 14 days after the death of her husband, Mrs. C. commenced to be ill, and at that time she left the house she was then in, and went to reside with Mrs. T. About a month after this, Mrs. T. also complained of illness. Both these patients undoubtedly suffered from enteric. Mrs. C.'s illness, being as above stated, of a few weeks' longer duration than Mrs. T.'s.

Case 694.—About 14 days before notification, Mr. W. stated that he had partaken freely of "black puddings." The meal had been shared by the rest of the family, all of whom suffered from slight diarrhoea. In this case there is a possibility that the illness of all was due to the same cause and perhaps not enteric.

Case 251.—This patient, V.A., was reported as suffering from enteric fever on March 28th. He had been ill since March 13th, and in the interval he had been taken out of town to stay with some relatives. About 18 days previously, his brother had been attacked with "brain fever and diarrhoea." A few days after the boy V.A. commenced to be ill, the father had had to seek medical advice for what was considered to be a severe chill—the illness was not protracted.

Case 7.—This patient, Mrs. L. T., was confined on October 18th, and had sent one of the children away from home for a time. About 5 weeks afterwards, this child returned home ill. The illness was severe and protracted. At the time of the investigation, the mother was not available to answer questions, but though the father did not think that the child had had diarrhoea, a neighbour

stated that it had so suffered. During the course of this illness, another child aged 1 year 10 months, had a similar illness which lasted for one month. The patient, Mrs. T., had nursed both children. She sickened with enteric during this time, and was removed for treatment to the Infirmary.

Three of these series of cases are interesting, and combined with the cases reported above as due to association with a previously known case, emphasise the risks which obtain from the nursing of cases of enteric fever in small houses. If the cases are not known to be enteric, the risks are enormously multiplied, and the following history of the incidence of the disease in one family is worth recording.

Cases 901, 902, 903.—M.G., about 8 years, was taken ill about the end of September with an illness which lasted one month, and with no very precise symptoms of enteric fever. On December 12th, I took a specimen of blood from the patient, and Prof. Delépine reported on the Widal reaction: "the serum gave a typhoid reaction (on 30 minutes)." A.G., a sister aged 4 years, was taken ill on November 8th, and was in bed for about a fortnight. M.G., aged 12 years, another sister, commenced to be ill on November 9th, and the report on her blood also taken on December 12th, was "the serum gave a typhoid reaction (on 5 minutes). A.G., aged 15, another sister, sickened on November 14th, and was notified as suffering from enteric fever, though the report on a blood specimen taken on November 25th, by the medical man in charge of the case, was "the serum does not give a typhoid reaction on two hours but there was hardly enough blood for a satisfactory test," there is no doubt that she was suffering from enteric fever. H.G., a brother aged 17, commenced to be ill on November 11th. He was notified as suffering from enteric fever on November 27th. W.G., aged 39, the father of the above children, fell ill on the 14th, and was notified on November 27th. Thus out of a family of 8 persons, six were ill in the space of two months, the only cases notified were the last three, but the bacteriological examination of the blood of the first and third cases makes it extremely probable that the first three patients had also suffered from the disease, and the nature of the ailment had not been recognised.

**Puerperal Fever.**—There was only one death registered as due to this disease among the seven cases notified as compared with three deaths among 11 notified cases in the previous year, and 4 deaths among 13 cases in 1905. This is a very satisfactory and progressive improvement, and I trust it will continue. The cases notified were two from Arboretum and Normanton Wards, and one each in Castle, Dale and Markeaton Wards. The usual precautionary measures have been continued, they include disinfection of the clothing of the midwife in attendance on the case, and also disinfection of the midwife's residence. In all cases of puerperal fever, a note of enquiry is forwarded to the medical man in charge, asking for particulars relating to the case, and in accordance with the reply received, the midwife is instructed to refrain from attending other cases for varying periods.

**Midwives' Act, 1902.**—In accordance with the requirements of the Midwives' Act, 58 women, who were registered as midwives, gave notice of their intention to practise within the boundaries of the Borough.

65 notices were received from midwives stating that they had had to send for medical assistance.

35 notifications of still births were received.

7 letters were forwarded to the Central Midwives' Board intimating changes of addresses, etc.

The circumstances which called for the censure of a midwife by a coroner's jury, was made the subject of an investigation by the Sanitary Committee, acting as the Local Supervising Authority. The particulars were forwarded to the Central Midwives' Board who, after consideration of the evidence forwarded, decided to take no action.

All midwives were invited to attend a course of three lectures on the Use of the Clinical Thermometer, which were delivered at the Nursing Institution, London Road, by Miss Atthill, under an arrangement with the Sanitary Committee. The last two of these were well attended, no doubt to the advantage of all who availed themselves of the opportunity.

The whole of the midwives have been regularly inspected by Miss Wilkinson. The record books and outfits were overlooked, and

such failures to comply with the rules of the Midwives Board as were discovered, were reported to me. In the cases of minor defects, I forwarded to the midwife concerned a letter specifically stating the rules which had not been observed, and requesting future compliance. In cases of failure at the next visit, or in the case of more gross negligence, the midwife was requested to attend at my office, and I personally interviewed her. The cases calling for such steps were as follows:—

*Interviews.*—1. Failure to keep case book written up. Failure to provide herself with necessary appliances and not keeping clean those provided. Generally unsatisfactory state of outfit. This midwife was interviewed for similar reasons a second time during the year.

2. To report decision of C.M.B., *re* enquiry.

3. Failure to remedy defects reported by letter. General unsatisfactory state of outfit.

4. Omission to enter cases and being unprovided with certain necessary appliances.

5. General unsatisfactory condition of outfit and case book.

6. Garments worn on duty not satisfactory. A further complaint was made later in the year dealing with want of cleanliness of appliances.

7. General unsatisfactory state of appliances.

8 and Others. All midwives in attendance on cases of puerperal fever were asked to visit me and advice was given as to the precautionary measures which they should adopt.

*Letters.*—In 11 instances a letter had to be forwarded to a midwife, requesting her to improve her methods in some respect, and in 9 instances two letters had to be forwarded before improvement resulted. The chief causes of complaint were: failure to keep proper records; failure to notify the Local Authority of having had to send for medical assistance; failure to notify the occurrence of a still-birth; insufficient outfit from the point of view of being inadequately supplied with the appliances necessary to carry on the practice of a midwife; in some instances dirty appliances; in others, wearing unwashable gowns whilst attending on cases; and

in a large number of cases, the bag containing the appliances was not capable of being properly cleansed. It is obvious that the improvements which have been effected in the above matters can only be of the greatest benefit to the women who engage midwives for their confinements, and I believe that now every woman wears a suitable gown, and uses a bag with a detachable lining which is frequently washed. Considerable improvement has taken place in the matter of keeping records, and in making the necessary notifications to the Local Supervising Authority.

**Bronchitis and Pneumonia.**—These two diseases were responsible for no fewer than 240 of the 1,784 deaths registered during 1907. Bronchitis was ascribed as the cause in 154 instances and Pneumonia in 86. Both are diseases which are very fatal in both the early and late years of life, but they are not regarded as coming within the category of diseases which are generally regarded as preventible. It does not, however, follow that nothing can be done to diminish the incidence of these ailments. In the case of bronchitis, greater care with regard to exposure and clothing, particularly of young children, would result in some attacks being avoided; in the case of pneumonia, there is undoubtedly some justification for the belief that it is very frequently of specific origin. In the classification of diseases as adopted by the Registrar-General, prior to 1901, all the varieties of pneumonia were classified under the one heading "Pneumonia," and that disease was given a place among "local diseases," under the sub-classification "diseases of the respiratory system," but in 1901, pneumonia was removed from this group and "in recognition of its infective character," it was classed among "general diseases," in which group are to be found the zymotic diseases. I have recently given some attention to the subject, and the following points seem worthy of consideration. Pneumonia has during recent years shown a tendency to increase. It is a disease which is more prevalent in urban communities than in rural, and has a greater incidence on males than females. If, as seems probable, it is due to a micro-organism, the reason for these two facts is probably to be found in the greater facilities which the former districts have over the latter for spreading infection, and probably also that males are more often exposed to the risks than are females. The

type of pneumonia known as "lobar" appears to be almost invariably associated with an organism called the pneumococcus. This germ is practically ubiquitous, and it has been stated that probably every man in New York City, once or more during the year, harbours the germ in his mouth. It has also been shown that the germ thus found is practically indistinguishable from that recovered from a case of pneumonia. The question naturally arises—what are the factors which predisposes to an attack of pneumonia under such conditions? It is impossible to be precise on this point, but it seems probable that that condition of the system associated with a diminished power of vitality may be most important. Thus the air cells of the lung may have their vitality diminished as a result of catarrh or chills, and likewise the general system is affected by unhygienic surroundings either at work or at home or by personal habits of a harmful nature.

The general direction which preventive measures should take would appear to be the education of the public with respect to the infectious nature of the disease, and to the fact that persons with impaired constitutions, whether the result of defective home hygiene or pernicious habits, are those upon whom the pneumococcus can most readily exhibit its pathological effects. As a corollary those conditions which tend to improve physique should be encouraged. The ventilation of workrooms and places where people congregate is of great importance. Since dust in excessive amount interferes with the efficient working of the respiratory tract, it would appear desirable that dustless streets should be aimed at and the least dust-raising methods of scavenging should be adopted. In the case of a person attacked it is obvious that careful disposal of the infected sputum is most desirable.

**Influenza.**—The only information relating to the prevalence of influenza is to be gleaned from the death returns, and these show that there were 23 deaths ascribed to this disease as compared with 27 in the previous year. The largest number of deaths, 13, was registered in the age period 25-65. There were 3 deaths of children under one year of age as compared with 5 in 1905. The largest number of deaths, 5, was registered in Babington Ward.

**Cancer.**—Cancer or some variety of malignant disease was held responsible for 114 deaths as compared with 92 in 1906. There were 2 deaths from this disease below the age of 5 years, 1 between 15 and 25, whilst the following two age periods had respectively totals of 73 and 38. Castle Ward with 20 deaths showed by far the highest mortality, and next Arborctum Ward with 11. In Osmaston Ward there was only 1 death from this disease.

**Violence.**—In 56 instances death was attributed to violence, 42 of these cases were accidents, and 14 were cases of suicide. These totals compare with 36 and 15 respectively, in the previous year. One-third of the cases of accident were of children under the age of 5 years, and 17 occurred amongst people aged from 25 to 65, this, of course, being the period of activity when risks, whether occupational or otherwise, are most common. The cases of self-inflicted death were also commonest also at this age period, and it is noticeable that there was one case at the older ages, and one between 5 and 15. Three of these deaths occurred in Abbey Ward.

**Other Diseases.**—There were 200 deaths from heart diseases, of which 166 were over the age of 25. The two wards with over 20 deaths from these diseases were Abbey and Rowditch. Of the 23 deaths from alcoholism and cirrhosis of the liver, there was one below the age of 25. The 69 deaths registered as due to prematurity were fairly well distributed over the whole town. There was only one death attributable to "accidents of parturition."

**Tubercular Diseases.**—These diseases are classified under two headings, namely, phthisis, or tuberculosis of the lungs, and "all other tubercular diseases," which include tabes mesenterica, tubercular meningitis serofu'a and others. In the last report the importance of phthisis in the annual statistical survey was fully discussed, as well as the measures which have been adopted in this Borough for its prevention.

The deaths from phthisis numbered 121 as against 113 in the previous year; compared as death-rates, these figures represent respectively 0.96 and 0.92 per 1,000 of the population—a slight increase for 1907.

A reference to Table I. will show that the phthisis mortality of the last ten years has been slightly under 1, whilst in the preceding ten years the rate was slightly under 1.4, this reduction represents a decline of over 25 per cent., which must be regarded as highly satisfactory.

The ages at death of these phthisis cases is practically the same as has been noted in the past. In the age period 5 to 15, are recorded the first cases, 4; at ages 15 to 25, there were 23 deaths; whilst between 25 and 65 there were 89 deaths; there were only 5 deaths at ages over 65.

As regards "other tubercular diseases," the heaviest mortality is observed among children under the age of 1 year, they contributed 24 out of the 61 deaths; the next age period shows the next heaviest mortality, viz., 21, whilst at all ages over 5 there were 16 deaths. A sub-division of the deaths under one, shows that of the 24 deaths, the localisation of the infection to have been in the brain and lining membrane in 5 instances, and in the abdomen in 12; the remaining seven showed a distribution over the rest of the organs of the body.

One of the most valuable measures which we possess for dealing with this disease is the knowledge of its existence, gleaned from the notification of the cases which are known to the medical man practising in the Borough. I have frequently referred to the favourable reception which has been accorded to the scheme since its inception in 1902, and it is satisfactory to be able to again report that all cases are brought to my knowledge which the medical practitioners consider should be visited by an official of the Health Department. The numbers reported for last year as well as those received in previous years are set out in the subjoined table.

Year.	Private Practitioners.	Institutions.	Poor Law Cases.	Others.	Total.
July 1st to Dec. 31st.					
1902	35	16	5	..	56
1903	35	62	8	..	105
1904	37	56	10	..	103
1905	32	41	9	..	82
1906	43	62	6	..	111
1907	46	33	19	1	99

The total notifications received are thus not so numerous as in several of the previous years, the diminution being most marked in the cases reported from the public institutions. The number reported by private practitioners is higher than in any previous year. The ward distribution of the cases was as follows:—

	Cases					Cases			
	Notified.		Deaths.			Notified.		Deaths.	
Abbey	..	11	..	7	King's Mead	..	15	..	17
Arboretum	..	2	..	7	Litchurch	..	8	..	10
Babington	..	4	..	6	Markeaton	..	8	..	8
Becket	..	5	..	8	Normanton	..	3	..	3
Bridge	..	2	..	7	Osmaston	..	2	..	4
Castle	..	13	..	13	Pear Tree	..	9	..	11
Dale	..	4	..	4	Rowditch	..	6	..	6
Derwent	..	3	..	3			—		—
Friargate	..	4	..	7	Totals	..	99		121

The largest number of cases was thus reported from King's Mead Ward and from Castle and Abbey Wards information was received of cases in excess of the average. The deaths were also highest in King's Mead and Castle Wards, the next highest being observed in Pear Tree and Litchurch Wards. There is a constant variation in the actual totals as observed from year to year, and practically the only constant feature—as I have previously observed—is the unenviable position which King's Mead Ward occupies.

The age incidence of persons attacked and notified in 1906 is shown in the subjoined total; the deaths registered at the same age period are inserted for comparison.

	All ages.	0-15	15-25	25-45	45-65	65 upwards.
Males ...	58	4	10	28	15	1
Females ...	41	9	11	14	7	0
Total ...	99	13	21	42	22	1
Deaths ...	121	4	23	89		5

The notification of males is much fewer in number than last year, whilst the number of females notified is about the same. This decrease is particularly noticeable in ages under 25. The female notifications actually show an excess over male at these ages though afterwards they are only about half the number.

The number of specimens of sputum sent for bacteriological examination was 15, of which 4 only showed the tubercle bacillus, and rather indicates that bacteriological aid is only sought in doubtful cases. Enquiries have been made into the occupations followed by the patients, and the information thus obtained has been tabulated in the subjoined table. The totals vary from year to year, and they show no striking incidence on any particular trade. The textile workers contributed 6 cases as against 12 last year, labourers 6 as against 14, and the various workers in wood, stone and metal 25 as against 12 in the previous tabulation. School children and persons engaged in domestic work contributed 13 and 17 respectively, as compared with 11 and 19 in the previous report.

<i>Textile Workers.</i>				<i>Workers in Wood, Stone, and Metal.</i>			
Elastic Web Makers	..	2		Stonemason	..	..	1
Net Makers	..	..	2	Fitters	..	..	4
Lace Hands	..	..	2	Moulders	..	..	2
Various	..	..	2	Brassworker	..	..	1
Total	..	..	8	Rivetter	..	..	1
<i>Labourers.</i>				Joiner	..	..	2
Bricklayers'	..	..	1	Various	..	..	14
M.R. Co.	..	..	4	Total	..	..	25
Others	..	..	1				—
Total	..	..	6	<i>Domestic Duties.</i>			
<i>Indoor Occupations.</i>				Housewives	..	..	17
Tailors	..	..	2	<i>School Children.</i>			
Dressmaker	..	..	1	Total	..	..	13
Bootmaker	..	..	1	No occupation	..	..	2
Baker	..	..	1				—
Clerk	..	..	1				
Various	..	..	5				
Total	..	..	11				
<i>Various Occupations.</i>							
Coachman	..	..	1	Boatman	..	..	1
Plasterer	..	..	1	Laundry work	..	..	1
Carters	..	..	2				—
Hawkers	..	..	2	Total	..	..	15
Dyer	..	..	1				—
Pottery works	..	..	1				
Ostler	..	..	1				—
Brewery work	..	..	2	Grand Total			97
Jockey	..	..	1				—
Soldier	..	..	1				

The fact that the creation of a condition, particularly prone to attack by the tubercle bacillus, whether in consequence of hereditary predisposition, or of a life passed under conditions which are not conducive to a healthy life, renders the investigation into the causes of the onset of disease a matter of peculiar interest. Two main facts are always kept in mind, viz., the possible source of origin of the actual exciting agent, the tubercle bacillus, and the chief contributory factors to the lowered condition of vitality, which latter appears to be an essential before the former can effect its results. In only a few instances is this really possible, as there is such a multiplicity of detail to consider, and at the best only more or less important presumptive evidence is obtainable. One fact stands out very prominently in this town and that is that in a remarkably few instances—only three or four at the most—has the disease attacked a person residing in a house in which previously a consumptive patient has been known to reside. A case of this kind came to my knowledge in 1907. The circumstances were as follows: A girl aged 6 years had been ill for about 10 weeks at the time the case was investigated. She had lived with her parents in that house for about 11 months, the tenancy dating from April. The wife of the previous tenant suffered from phthisis and lived in the house for 3 months. She then went into the country in the month of August and died there. The husband continued to occupy the house until April when he left and the parents of the last patient took over the house. The house had been scrubbed and cleansed and the bedrooms limewashed and re-papered. The illness of the child commenced rather suddenly, and there was some suggestion that the case was originally one of pneumonia, whatever it was the child gradually failed. It is impossible to state that the circumstances stand in the relationship of cause and effect, but the rarity of the association is my reason for referring to the case.

In the first series of cases are grouped those instances which were discovered of persons living under the same roof as a phthisical person, and therefore probably receiving a continuous dose of the infection, and here we are probably right in assuming that the infection was contracted in this manner. In the second series, the suggestion of a bad family history is made with the idea of regarding the same as a predisposing cause, but how far that is justifiable

is not at the present time quite clear; the fact remains, however, that a large number of cases, phthisical persons report instances of near relatives having succumbed from the disease at a more or less remote period of time.

Occupation has always been regarded as playing an important part in predisposing to phthisis—occupation in which dust particularly of an irritable character is produced, and those which are pursued under unfavourable conditions as regards ventilation, are most frequently associated with outbreaks of the disease. Exposure to weather as in the case of labourers, particularly if it is associated with personal neglect, is a fertile cause of phthisical predisposition. As in the past, many cases of phthisis seem to have followed either an attack of influenza, or of pneumonia. Possibly carelessness during convalescence is not an unimportant factor in such cases.

**SERIES 1.—Probably direct infection.**

Case 8.—Delicate from birth, aged 11. Grandmother died of Consumption as did also two nieces, one two years ago, and the other four years ago.

Case 28.—Ill for five or six years. Rapid development of symptoms after moving into a new house not quite dry, about 12 months ago. Sister now suffering from Consumption. Three other sisters have died of the disease.

Case 49.—Has led an irregular life. Brother in another town now suffering and one sister died of Consumption.

Case 65.—Occupation close and confined. Poor physique. Wife died about two years ago of Phthisis.

Case 88.—Factory hand. Brother now suffering and mother and sister both died from Consumption of the Lungs.

Case 92.—Aged 15, works at a Blacksmith's Shop. Brother ill in the house with Phthisis

Case 94.—Indoor Occupation. Half-brother died 12 or 13 years ago from this disease, and another now in a Sanatorium undergoing treatment

Case 109.—Patient aged 38 years, had a severe attack of Bronchitis three years ago. Father died of Phthisis, Mother suffered from the disease but did not die from it, Sister said to have suffered and recovered.

**SERIES 2.—Cases characterised by a marked family history of Phthisis, but no recent contact with such cases.**

Case 1.—Cotton Winder by trade. Suffers from fits: Mother died at the age of 26 from Consumption 13 years ago.

Case 3.—Originally a Tailor's Cutter. Mother, two brothers, and maternal grandfather, all died of Phthisis—mother 6 years ago.

Case 6.—Certain members of this patient's family have died from Phthisis.

Case 10.—Engine Cleaner. Says he has never recovered thoroughly from an accident. Maternal uncle died of Phthisis.

Case 14.—Boot Trade. Nursed mother who died seven years ago of Phthisis, a brother has recently died in India of the same disease.

Case 29.—Grinder. Inhaled iron and stone particles and perhaps sulphur fumes. A family history of Phthisis was recorded.

Case 31.—Fitter. Family history of Phthisis. Mother now suffering from an indefinite bronchial complaint.

Case 38.—Labourer. Heavy work. Brother died consumptive about 14 years ago.

Case 42.—Father died of the disease, as also did three sisters of this patient at ages 18, 20, and 21 respectively. Patient's age 42.

Case 46.—Two sisters died ten years ago, and one sister 6 years ago from this disease.

Case 50.—Labourer. Has recently suffered from blood poisoning, pleurisy and pneumonia. Father died of Phthisis.

Case 51.—Rag Sorter. Hard life. Paternal uncle and aunt died of Phthisis.

Case 55.—Boatman on Canal. Delicate constitution. Mother's death 5 years ago attributed to Phthisis.

Case 61.—Patient left weak after an attack of Pneumonia some years ago. Father and sister died from the disease some years ago.

Case 62.—Brother died of Phthisis.

Case 63.—Has suffered from Asthma for 14 years. Sister's death 7 years ago was thought to be due to Phthisis.

Case 67.—Close occupation. Family history of Phthisis.

Case 71.—Fitter. Not very strong. Deaths from Phthisis in this family include father, two grandparents, aunt and uncle, whilst two sisters and one brother died in infancy of Consumption of Bowels.

Case 76.—Two sisters died of the disease 27 and 8 years ago, respectively.

Case 101.—Suffered for years from Bronchitis and Asthma. This patient's father died of Consumption.

Case 102.—Pneumonia and Pleurisy said to have caused onset. Maternal grandmother and two brothers died of Phthisis.

Case 110.—Only just come into the town to live. Mother died of Phthisis.

**SERIES 3.—Cases in which the nature of the occupation has been suggested as a predisposing cause.**

Case 4.—Tinplate and copper workers. Copper dust and fumes given off during soldering processes have been a cause of irritation.

Case 16.—Assistant fitter in Weighing Machine Works.

Case 20.—Stoker. Variations in temperature. Influenza a few months ago.

Case 26.—Brass moulder. Work said to cause exposure.

Case 32.—Jeweller. Rather confined work.

Case 44.—Moulder. Subjected to exposure to damp and great variation in temperature.

Case 47.—Rivetter in a ship-building yard.

Case 52.—Forgeman. Steam hammer. Exposed to high temperatures, risk of sudden chills.

Case 53.—Moulder

Case 59.—Grinder. Inhalation of iron dust and sulphur fumes.

Case 2.—Textile worker. There have been several persons notified from these works in the last few years.

Case 34.—Weaver in an elastic web works.

Case 35.—Lace hand.

Case 48.—Lace hand. Has suffered from Pleurisy and Bronchitis.

Case 57.—Winder. Delicate from birth.

Case 58.—Tailor, home worker. Has been debilitated for many years.

Case 79.—Dressmaker at home.

Case 86.—Weaver. Large family and in poor circumstances.

Case 5.—Cellarman at a brewery. Heavy work.

Case 9.—Carter. Very heavy drinker. Ill for 5 years.

Case 13.—Joiner. Been a heavy drinker. Suffered from Rheumatism for years.

Case 18.—Invalided from the Army. South African Campaign.

Case 19.—Jockey. Complains of having frequently slept in the damp whilst travelling with the horses.

Case 22.—Bricklayer's labourer. Delicate physique.

Case 23.—Pattern Maker. Always delicate.

Case 25.—Outdoor labourer. Been much exposed to the weather.

Case 30.—Railway labourer. Dirty and dusty work.

Case 33.—Shop Assistant. No other particulars obtained.

Case 41.—Brewer. Suffered from Bronchitis as a result of frequent chills.

Case 45.—Ostler. Healthy until he contracted influenza, which was followed by pneumonia about 13 weeks ago.

Case 72.—Printer's Assistant.

Case 74.—Warehouseman. Very close work.

Case 84.—Baker. Delicate physique.

Case 85.—Clerk. Always subject to "Catarrh."

Case 95.—Stonemason.

Case 96.—Fish Hawker. Very heavy drinker.

Case 105.—In china works. Has had a few hard years.

Case 107.—Polisher. Suffered from Anæmia 5 years ago, and Whooping Cough twelve months ago.

Case 108.—Dyer.

#### **SERIES 4.—Cases following illness.**

Case 18a.—Springmaker. Owing to ulcerated stomach has suffered from malassimilation of food.

Case 21.—Prolonged Bronchitis and disease of generative organs.

Case 80.—Illness followed Bronchitis and Pneumonia.

Case 83.— " " "

Case 91.—Hawker for last 18 years. Pleurisy and Pneumonia some years ago.

Case 106.—Pleurisy said to have caused attack.

Case 14a. Said to have followed on prolonged and severe illness affecting the bowels.

Case 36.—Hip-joint Disease.

Case 39.—Has suffered from Asthma for years.

Case 103.—Four years ago underwent a severe operation for some disease of the stomach.

#### **SERIES 5.—No suggestion as to cause of onset.**

Case 7.—School boy. No known contact.

Case 11.—School. Delicate for years.

Case 17.—School. Previous occupant of the house in which this patient resides suffered from Phthisis.

Case 27.—School. Delicate, no previous definite illness.

Case 56.—School. Delicate boy.

Case 64.—School. Delicate all his life. Has suffered from abscess.

Case 69.—School. Very delicate.

Case 81.—School. No known contact or suggested cause.

Case 15.—Housewife. Has always been delicate.

Case 43.—Household duties. No suggested cause.

Case 66.—Household duties. Suffered from Anæmia.

Case 99.—Has not led a healthy life.

Case 97.—Housewife. No suggested cause.

Case 24.—Blind from birth.

Case 82.—Delicate man. Follows the occupation of a plasterer.

Case 93.—Child aged 18 months.

Case 100.—Aged 74 years.

### **The Control of the Milk Supply.**

In addition to the routine work under the Food & Drugs Acts, a considerable amount of work has been carried out under the Tuberculous Milk Clauses, contained in Part 3 of the Derby Tramways Act, 1899.

The protection of the milk supply is one of the most important works coming within the scope of the Medical Officer of Health, and numerous Acts have been passed with a view of ensuring that a town shall be supplied with pure and wholesome milk. The earliest legislation is based upon clauses contained in the Contagious Diseases Animals Act, 1878 & 1886, which enables the Local Authority to make regulations for the purpose of inspection of cattle in dairies, for prescribing and regulating lighting, ventilation, cleansing, drainage and water-supply of dairies and cowsheds, for securing the cleanliness of milkshops and milk vessels used for containing milk for sale, and for prescribing precautions to be taken by purveyors of milk, against infection. Regulations under these various headings were adopted by the Corporation in 1898. A further order was made by the Local Government Board in 1899 by which tubercular disease of the udder was included among the diseases which precluded the milk of such a diseased cow from being mixed with other milk or sold or used for human food and also required that such milk should not be sold or used for the food of swine or other animals until it had been boiled. That amending order and the following extract from the Derby Corporation Act, 1899, has again, during this year, been circulated amongst all the registered milk sellers in the Borough of Derby.

*“Section 31.—*

- (2) Every person who knowingly sells or suffers to be sold or used for human consumption within the Borough the milk of any cow which is suffering from tuberculosis of the udder, shall be liable to a penalty not exceeding ten pounds.
- (3) Any person, the milk of the cows in whose dairy is sold or suffered to be sold or used for human consumption within the Borough, who, after becoming aware that any cow in his dairy is suffering from tuberculosis of the udder, keeps or permits to be kept such cow in any field, shed, or other premises along with other cows in milk, shall be liable to a penalty not exceeding five pounds.
- (4) Every dairyman who supplies milk within the Borough and has in his dairy any cow affected with or suspected of our exhibiting signs of tuberculosis of the udder, shall forthwith give written notice of the fact to the Medical Officer, stating his name and address and the situation of the dairy or premises where the cow is.
- (5) Any dairyman failing to give such notice as required by this sub-section shall be liable to a penalty not exceeding forty shillings.

Section 4, Infectious Diseases Prevention Act, 1890, gives certain powers to a Local Authority to deal with dairies when any person suffering from infectious disease is residing on the premises from which such milk is supplied to the district. This section has not been adopted by the Corporation, as the Derby Improvement Act of 1879, contained powers which enabled the Corporation to order any dairy to be temporarily closed whenever, from the appearance of infectious disease in such dairy, it appeared necessary to the Corporation that such action should be taken. In addition to these provisions the Corporation have decided to avail themselves of the powers contained in the Sections 53 and 54, Public Health Acts Amendment Act, 1907, and have applied to the Local Government Board to render these Sections applicable to Derby. Under them, dairymen may be required in proper cases

to furnish the Medical Officer of Health with lists of their *sources* of supply, and they are also bound to notify any case of infectious disease arising in persons in their employment. It will be seen that these powers are fairly comprehensive and yet they present defects which, as I shall show shortly, are of a somewhat serious nature.

As regards the work under the Tuberculous Milk Clauses, 121 specimens were sent to Professor Delépine for bacteriological examination. These specimens were taken from 90 byres; 16 of them were from farms situated within the Borough boundaries and in no instance was tuberculous milk found to be sold therefrom. Of the remaining 74 which were situated in the County, a positive result was received in 8 instances, which represents a percentage of 10.8. This coincides with observations made in other places that as a rule the milk produced in the town is freer from tubercle than that produced by cattle stalled in country byres. The full details of the work are explained in the Annual Report for 1900, and no deviation from that routine is to be recorded. In the 16 Borough farms there were stalled 135 cows, whilst in the farms outside the Borough, those giving a negative result housed 1,271 cows, whilst from the 8 in which positive results were obtained there were stalled 236.

The difficulties which are to be met with in pursuing this branch of work are best illustrated by detailing the enquiries which were rendered necessary by the knowledge that tuberculous milk was being supplied.

Case 1. A sample was taken on 8th March, and the report received on 11th April. The byre was subsequently visited by the Medical Officer of Health accompanied by a Veterinary Surgeon, and 28 cows examined. Of this total three were found to present abnormalities of the udder, and a suggestion was made that these three cows should be isolated from the general herd, that the milk produced by these cows should not be used for human consumption, and if used for the food of animals it should only be after boiling. A separate sample of milk was taken from each isolated cow with the result that the milk from each was found not to be tuberculous. A second visit was made on 9th May, and 28 cows

were again examined. A sample of mixed milk produced by all the cows stalled was taken and a positive result was again obtained, thus indicating that the cow or cows imparting this objectionable quality were still stalled. Two other cows not included in the first three were again selected for separate test and one of these was ultimately found to have tuberculous disease of the udder. After that cow was excluded, the mixed milk was again examined and a negative result obtained. The disposal of the cow presented some difficulty. An attempt was made to fatten it but it was not attended by success, it was ultimately slaughtered and the carcass buried.

Case 2. A sample of milk was taken from the supply of this farm on 8th March, and a positive report was received on 4th April. The byre was visited, 32 cows were examined and four excluded, similar restrictions to those mentioned in Case 1 were suggested. Of these four, two were found to be suffering from tuberculosis of the udder. The cows ultimately were slaughtered in the Derby slaughter-houses, but the disease was found to be so generalised that the carcass of neither could be passed as fit for human consumption.

Case 3. The milk was examined on 26th April, and a positive report was received on 22nd May. The farm was visited by the Medical Officer of Health and a veterinary surgeon, 40 cows were examined, of which one was found to be suffering from the disease. This cow was ultimately slaughtered, and with the exception of the diseased udder, there were such slight signs of tuberculosis that the carcass was passed as fit for human consumption, with the exception of such portions of it as were found to be diseased.

Case 4. In this instance the sample was taken on May 3rd, a positive result being received on 29th May. 28 cows were examined, two were isolated, of which one was found to give a positive result. Similar restrictions were imposed and an examination of the milk from this farm taken later in the year showed a negative result.

Case 5. Again difficulties were experienced in this farm in discovering the infected animal. A sample of milk was taken on 20th June, and a positive report received 24th July. 38 cows

were examined and three were isolated with restrictions. Separate samples from each of these animals were sent for examination, and in each case a negative result was obtained. A further sample of mixed milk supplied from the farm was taken and the result was again positive, indicating that the infected animal was still being milked. A second visit was made and the same number of cows examined and two others isolated, of which one gave a positive result.

Case 6. This is a small byre of 12 cows. These were all examined after a positive report had been received, and one cow isolated. A negative result was obtained. The mixed milk from this farm was again examined with a positive result. The cows were submitted once more to examination, and two isolated. On this occasion, the animal suffering from the tubercular disease was discovered. The affected cow has since been slaughtered and a portion of the carcase passed for human consumption.

Case 7. 29 cows were examined in this farm, and two isolated with negative results. The mixed milk was examined subsequently with also negative results. The infected animal at this byre has not been discovered.

Case 8. This dairyman not only supplies milk from his own farm but the whole of the milk produced on two other farms. A sample of this mixed milk gave a positive result. Before visiting the farms, a sample of mixed milk from each of the three farms was obtained and examined in each instance with negative results. Again the diseased animal was not discovered.

As far as regards the actual administrative work, the following difficulties present themselves:—

(a) The lapse of time between taking the sample and obtaining the result of the bacteriological test is about a month, and during this period, considerable changes may have taken place in the animals stalled, some being sold and others purchased. It is obvious therefore that where a positive result has been obtained the animal giving rise to that result may have been passed on. Such a step I can quite understand may easily happen without design in the case of an individual who carries on the occupation of a dealer

as well as that of a dairyman. The peculiar method of taking the samples gives an obvious clue to the object of an inspector's visit, and in the case of persons so disposed, cows with tuberculous udder might be removed from the district of the Derby supply with corresponding improvement in that area but to the detriment of the supply of our neighbours.

(b) The diagnosis of the disease is not always easy. The lesion in more than one instance was extremely small and not all comparable to the lesions observed in cases of what apparently were ordinary cases of inflammatory mastitis.

There may be several other reasons to account for failure to discover the affected animal, for instance, on the day the sample was taken, that particular farmer may have supplemented his supply by purchase from a neighbouring farmer, and I know of one instance where such purchased milk was probably the infecting agent. Less probable reasons are the infection of the milk by phthisical persons or infection by the sputum of cows suffering from tuberculosis of the lung. Whether a cow without tuberculosis of the udder but suffering from some other form of tuberculous disease can impart a tuberculous quality to the milk is I think somewhat improbable.

(c) The number of cows showing abnormalities of the udder which it is necessary to exclude from the herd pending the investigation of the separate milks is so great compared with the number that are found to be infected that the farmer is involved in considerable pecuniary loss by complying with the requirements of the Authority.

(d) Although several cows were found to be suffering from tuberculosis of the udder, beyond isolating these cows from the general herd and obtaining an undertaking not to use the milk of such cow for human consumption or until after it has been boiled for the food of animals, no further action can be taken. In at least two instances I know of cows with tuberculous udders and what their ultimate destination will be I am unable to say.

(e) Although tuberculosis of the udder is compulsorily notifiable (see clauses already referred to), and although the requirement

has been obligatory since 1899, and at least on two occasions all farmers have been notified of the existence of these clauses, not a single case of tuberculosis of the udder has been notified. It is a difficult matter to prove that the farmer knew that the cows discovered were suffering from tuberculosis of the udder and not a simple inflammatory ailment, and this is proved by the difficulty which a skilled veterinary surgeon has in detecting the disease.

The chief amendments required in the law would appear to be

(1) That all diseases of the udder should be notified ;

(2) That any cow producing milk which it is undesirable should be used for human consumption should be compulsorily slaughtered subject to some kind of compensation ; and it would perhaps be of advantage

(3) That in certain instances the Medical Officer of Health should have power to prohibit the supply of milk for a period of say 48 hours.

The use of milk as a universal article of diet seems also to demand the registration of all dairy cows in a district and more adequate inspection of all cattle, particularly in the country areas. If dairy cows were registered, the objection to which I have referred, movement of cows, would be met, and the very act of itself would ensure greater vigilance being exercised by dairymen in the purchase of their milch cows.

**School Hygiene.** In my report for the year 1905, I detailed the various matters which came under the consideration of the Medical Officer. These have not been varied in any way since that time.

In the following classification the chief branches of administrative school work are set out.

Fourteen young people who had obtained the Committee's bursaries, were examined to ascertain their suitability for the teaching profession. They all passed the test.

Forty-five candidates for the position of pupil teacher were examined as to their fitness to be placed on the staff. All were regarded as suitable except one who was approved on a second examination.

Seven teachers resuming duty after sickness of one month's duration, were examined as to their fitness to commence duty.

The following children were examined for the various reasons stated:—

Children examined at the office on account of various conditions	...	...	...	...	...	62
Children examined at the office as to their suitability for admission to the Special School	...	...	...	...	...	5
Children examined before admission to the various Industrial Schools	...	...	...	Boys	Girls	5 1
Children re-examined	...	...	...	...	...	1
Youths as to their fitness for employment as Boy Artificers in the Navy	...	...	...	...	...	6
Children before admission to a Blind School	...	...	...	...	...	2
Children before admission to a Deaf and Dumb Institution	...	...	...	...	...	7
Examined at the Special School (Admitted, 18; Rejected, 6; Deferred, 3; Others, 93)	...	...	...	...	...	120

In addition numerous examinations were made to discover the parasite of Ringworm in cases of a doubtful character, or in which some doubt existed as to whether the disease was quite cured.

The following children were examined at the various schools, and the numbers suffering from different defects were as follows:—

Defective vision	...	...	...	...	...	576
Defective hearing	...	...	...	...	...	171
Abnormal condition of nose and throat	...	...	...	...	...	136
Various skin eruptions	...	...	...	...	...	114
Various defects—Physical and mental	...	...	...	...	...	142
Total						1,139

**Defective Vision.**—Of the 576 cases examined, 371 were found to be sufficiently serious to justify advising the parents to seek medical advice. This is about the same proportion as has been observed in other years, and, as in the past, refractive errors

formed the greatest number. Acute cases were not characterised by undue frequency. As in previous years the number of instances in which spectacles were ordered but the parents pleaded that they were too poor to purchase them was fairly considerable.

**Defective Hearing**—Eight-seven out of the 171 instances of defective hearing which were brought to my notice were of a sufficiently severe character to require medical treatment. Cases of otorrhœa were not so numerous as in previous years. Many of the old cases had been under treatment and were either relieved or cured.

**Throat and Nose Cases.**—Fifty of the 136 Throat cases presented conditions which ought to have received skilled treatment and the parents were advised accordingly. Enlarged tonsils and adenoidal growths were the chief defects discovered.

**Skin Lesion.**—Although ringworm and impetigo were the chief conditions from which the children suffered, I think that there was a marked decline in the prevalence of the former ailment. The disease is of so objectionable a character that the fact of such a decline can only be regarded as a cause for considerable satisfaction. 114 children were examined under this heading and 107 were advised to be excluded from school or place under medical treatment.

**Special School.**—The Special School continues to do good work, but there are now no vacant places, and a few children who had been passed as suitable for admission had to wait until vacancies arose. The following visits were made to the school for the purpose of examining children as to their suitability for admission, and also for considering the progress of the children in attendance.

Date of Visit.	Number of Children.			Sent for but did not appear.	Number examined in attendance.
	Admitted.	Rejected.	Deferred.		
13th Feb. ...	2	...	...	2	74
10th April ...	2	2	...	1	5
10th July ...	6	1	1	...	...
10th July ...	5	...	...	2	2
18th Sept. ...	2	...	1	2	7
7th Nov. ...	1	3	1	...	5
Total ...	18	6	3	7	93

In reference to the Special School work, two important variations have been made in the Regulations, dated July 22nd, 1907. First, the age limit of admission has been lowered from 7 years to 5 years (see Regulation 2 (*b*), and secondly, Regulation 23 (*a*) reads " Each class in a Special School for Defective or Epileptic Children must have a teacher of its own. Mentally defective children must be taught in separate Schools or Departments from physically defective children, though one head teacher may, with the consent of the Board, be placed in charge of separate adjoining departments. This regulation seems to call for some instruction for the future administration of the Special School, where such differentiation is not at present made.

**Medical Inspection.**—The most important matter for consideration arising during the year was the Education (Administrative Provisions) Act, 1907, and particularly Section 13 of which the following is an extract:—

(1). The powers and duties of a local education authority under part III. of the Education Act, 1902, shall include:—

- (b) the duty to provide for the medical inspection of children immediately before or at the time of or as soon as possible after their admission to a public elementary school, and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools :

Provided that in any exercise of powers under this section, the local education authority may encourage and assist the establishment or continuance of voluntary agencies, and associate with itself representatives of voluntary associations for the purpose.

In accordance with the terms of this section the Education Department issued a notable memorandum dealing with this matter. A copy was forwarded to each member of the Committee and the Medical Officer was instructed to prepare a report upon the subject which he did in the following terms :—

“Before considering the work of medical inspection as affected by the recently issued memorandum of the Board of Education, it will be perhaps advisable to refer briefly to present methods and to the difficulties which have been observed.

It has been my endeavour to visit each department of every school twice in each year and in the main this has been accomplished. A scheme for visiting is drawn up each half-year on January 1st, and July 1st, and a time-table for that half-year then arranged. Notification of intention to visit is sent to the Head Teacher, who makes enquiries of the subordinate staff as to what children it seems desirable should be presented for medical examination. Such cases have embraced defective vision and diseases of the eye, diseases of the ear, nose, and throat, contagious eruptions and diseases of the skin, and children presenting any mental or physical defect. These various cases are classified on a form which

I forward to the teachers, and on that form the Medical Officer makes certain notes. The teacher notifies the parents of cases for which it is intimated that treatment is desirable and in about fourteen days returns the form to the Medical Officer with observations as to what action has been taken. No anthropometrical observations have been made except in the mental cases. Cases of both mental and physical defects have been superficially examined at the school and those cases which it seemed desirable should receive their education at the Special School have been submitted to a more detailed examination at that school.

Work supplementary to the above includes examination at my office of children who are stated by their parents to be physically weak or who have been requested to attend for medical examination either by the Attendance Committee or by the Magistrates; and the examination of children for admission to the various special schools such as schools for the blind or the deaf and dumb and reformatory and truant schools. The examination of the various bursars and young men and young women before appointment to the staff, as well as enquiries into fitness for duty after illness extending over a period of one month, are details of work which have been referred to me by this Committee. Other work which intimately affects schools but which has been more generally reported on to the Sanitary Committee has reference to the control of infectious diseases, and for this purpose a scheme of inter-notification between the teaching staff and the Medical Officer of Health has been in practice for a considerable number of years. The teachers notify the Medical Officer of Health of all cases of infectious disease coming to their knowledge, and the latter official in turn communicates such information as he may possess which is of interest to the school teacher, to the Head of that particular school. The work of visitation of these notifications is carried out both by the men and women inspectors, and when, as in an outbreak of measles, cases have been too numerous to individually visit, I have forwarded to the guardian of each sick child a list of precautions suitable to the particular disease. In addition you have recently given instructions to print and circulate among the principal teachers certain "Suggestions" which are intended to supplement and assist that work.

The deficiencies of the present medical inspection are as follows:—

1. The defects from which the children suffer are not discovered early enough, and as each child in attendance at the school is not separately examined, many may fail to be discovered.

2. In the cases where defects have been found, there are numerous instances where little or nothing has been done for the following reasons:—(a) The advice has not been acted upon owing perhaps to the apathy and indifference of parents; (b) the treatment practised has been either unsatisfactory or worse than useless; (c) parents who would like to do something have stated that they cannot afford treatment or that they cannot obtain a recommendation for Infirmary treatment, and will not consult the parish doctor; (d) in other cases, suitable advice has been sought and a recommendation made, but the parents have not been able to make the necessary purchase which is involved in the advice given, for instance, spectacles for cases of defective vision.

Now the proposed system, although it embraces all the above details, aims at discovering these defects at a much earlier stage of school life. It further has, as a main object, the provision of a remedy where possible, and to ensure that greater benefits shall accrue than has been possible under this system, it anticipates the organisation of better system of "following up."

The memorandum indicates that the various points referred to in it represents the minimum requirements of an effective medical examination. These are apparently capable of division into two parts, (a) regulations made in accordance with the specific terms of the Act, and (b) suggestions which it seems desirable to the Board of Education should be considered in the organisation of any scheme.

The regulations require,

1. The medical inspection of all children admitted to the school as soon as may be practicable, with subsequent examinations in the third and sixth years of school life, and further, if practicable, on leaving. The nature of this examination is laid down and to that I will refer later. The fact that children are admitted at

varying ages and that in many cases they occupy different positions in the school after corresponding periods of school attendance, and that some leave at the age of 13 and others at 14, seems to suggest that in this town an actual standard of age would secure greater uniformity and ease in tabulation, and I therefore suggest that the examinations should take place first on admission, then at the ages of 7, 10 and 13.

2. Further regulations have reference to, (*a*) due regard must be paid to the exigencies of school routine, and the convenience of the staff consulted in arranging the examination; (*b*) proper records in prescribed form must be kept; (*c*) an annual report and other reports must be made to the Board of Education of work done; and (*d*) a systematic anthropometrical survey must be aimed at.

The suggestions would appear to be as follows:—

1. The desirability of notifying the parents of the date when the examination will take place.

2. The desirability of establishing a school clinic, or other establishment for the treatment of certain ailments.

3. The desirability of enlisting the sympathetic and practical assistance of parents, teachers, nurses and sanitary staff in this work, and

4. The recognition of medical inspection as a part of the organised preventive health work which is being carried out in the town, and as a consequence the supervision of the work by the Medical Officer of Health.

With reference to the co-operation of these various individuals, it is obvious that such of them as are officials will follow the directions and instructions laid down by this Committee, but with the parent it is different. No doubt a large number will be present at the examination and be pleased to receive and act upon such advice as it may be deemed necessary to tender, but a number will disregard the invitation and it will probably be found that those who absent themselves will shew a greater proportion of persons to whom it will be advisable to tender advice than those who attend. It is at

the least as advisable that the health of the children should be safeguarded during the hours that they are at home as during the hours they attend school, and further, there is just as great an obligation on parents to see that children do not attend school suffering from conditions which are liable to be communicated to healthy children as there is for teachers to be ever on the alert to prevent healthy children committed to their charge by careful parents from coming into contact with children who may transmit some ailment to them. We expect our teachers to possess sufficient knowledge of these conditions and to put that knowledge into practice; the same should be expected of parents, but as the facilities for acquiring that knowledge are limited, I suggest that advantage should be taken of the attendance of the parents at the first examination to present them with a health manual. This would describe the parents' obligations towards other children and would contain a simply worded account of the symptoms of infectious and contagious diseases to which children are liable, and the main hygienic rules which should be observed in the upbringing of children. My experience of such literature in the case of the prevention of infant mortality convinces me that this suggestion would be of great practical benefit. Again, where it has been necessary to tender advice in the case of certain children, it is essential that some means should be devised for ascertaining and ensuring that that advice is acted upon. This can be best done by what may be termed a system of "following up." In the majority of cases this would be done by the school nurse and in the more difficult exceptional cases by the school doctor, notes being made at the time of the first examination. Another illustration of the practical benefits which would accrue from this home work is the knowledge which would be obtained in the case of children classed as "insufficiently nourished." As is well known, this defective nourishment may result from either insufficient or unsuitable food and the actual facts can only be ascertained by carefully made home enquiries. I do not purpose suggesting any alterations in our methods of dealing with infectious diseases, but with some of the commoner and contagious verminous and other ailments such as ringworm, impetigo, discharging ears, etc., I am strongly of opinion that the suggestion of the Board of Education for the establishment of a school clinic is desirable and would probably be profitable. This need not be expensive, it would

do away with the excuse of inability to obtain treatment, it would discourage apathy and indifference whilst at the same time it would not prevent parents seeking the advice of their own medical man if they so wished it. The present loss in grant which results from the length of absence of these children from school would be diminished by their more speedy cure and that gain would go a long way towards the expenses of this particular class of work.

In these various ways an endeavour will be made to effect a limitation of the excuses which may be advanced for parental neglect, and to introduce a spirit of parental enthusiasm without which the work done at the schools cannot be successful. Home life must occupy a prominent part in the hygiene of children of school ages, as it is of prime importance that a healthy child shall be presented for the educational course.

From the point of view of the actual recording of facts there are two necessities for success, viz., (*a*) uniformity, and (*b*) continuity of observation. Where matters of opinion have to be recorded there is a great tendency for variability in the same observation by different persons which is dependent upon what may be termed the personal factor. To secure uniformity as far as possible, all points on which information is sought should be stated in precise terms, so that the same information may be sought in each person examined and a definite method of reply used for the observation. To effect this I have drawn up the following schedule which I consider might be used in each case. I understand from the official memorandum that a suitable form of enquiry will be issued and if this should vary in any respect from the one submitted the necessary alterations will be effected. The form submitted herewith is sufficient to indicate the main direction of the examination. It consists of a four page card folded in the middle. It is divided so that the first series of queries can be filled up by the school-master, the majority of the second by the school nurse, the third series are such as can only be filled up by a medical man, the fourth are matters which will only require to be referred to in a minimum number of cases, whilst the last space is intended for observations of a variable character arising during the school life of the child. The data are as follows:—

On page 1.

### MEDICAL INSPECTION CARD.

Name.....Address.....Date of Birth .....

Date of attack of :— Measles. Whooping Cough. Ch.Pox.

Diphtheria. Scarlet Fever. Others.

Date of Examination				
School				
General Appearance				
Height				
Weight				
Nutrition				
Cleanli- ness. { Head				
Body				
Clothing. { Sufficiency				
Cleanliness				
Footgear				
Visit Home				
and reason				

On page 2.

Date

Nose and Throat	{	articulation				
		breathing				
		tonsils				
		adenoids				
		glands				
Ears.	{	deafness				
		discharge				
Eyes.	{	conjunct.				
		lids				
		squint				
	Near.	{ R.				
		{ L.				
	Distant.	{ R.				
		{ L.				
	Teeth					

On page 3.

Underline any of the following conditions if present, and specify the nature of the abnormality :—

1. Deformity or paralysis.
2. Rickets.
3. Tuberculosis (glandular, pulmonary, osseous, other).
4. Disease of skin or lymph glands.
5. Disease of heart.
6. Disease of lungs.
7. Anaemia.
8. Epilepsy.
9. Chorea.
10. Rupture.
11. Spinal Disease.
12. Other disease.

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Mental State of child \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

State if child is unfitted for ordinary school life  
or physical drill with reasons \_\_\_\_\_

On page 4.

OBSERVATIONS ON TRANSFER. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Points arising in inter-examination period. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signed. \_\_\_\_\_

\_\_\_\_\_

These cards will be of two colours, one for males and one for females. Continuity of observation is essential, and can best be attained by preparing a card for each child. This is better than recording facts in a register as the details referring to each child are then kept separately. Its history being recorded on one form, can be ascertained at a glance, and I shall shortly show that an enormous saving of time will be effected by this system. How is this work to be carried out? Assuming for a moment that there are from 2,000 to 2,500 admissions each year and that each child will require an average of 10 minutes, the examination of these children for admission only, will necessitate a period of from 340 to 420 hours. As these children will all be in the Infants' Department, the school hours available will be from 9 to 12 in the morning, and from 2 to 4 in the afternoon. Of that time  $\frac{1}{2}$ -hour in the morning and  $\frac{1}{2}$ -hour in the afternoon must be deducted to admit of the head teacher opening the school and marking the registers, so that there will be available for each day four hours and the work will require

85 to 105 full school days. As there are only five school days to the week, practically four months of continuous work will be required. To this work must be added the examination of the children who are maturing for second and third examinations, and for all the other incidental school work to which I have referred. It is obvious that it will be beyond my capacity to carry out this examination work unaided, and I therefore recommend the appointment of a Medical Officer whose time shall be devoted to school work entirely and work under my directions. The ten minutes which I have laid down is a minimum and assumes that a school nurse is present to assist in the preparation of the children for examination, and as such a person would be of the greatest value in the collateral work of home supervision, I recommend that the recent decision of the Committee, approved by the Corporation, to appoint a school nurse shall forthwith be carried into effect.

I would therefore sub-divide the work as follows:—

*A. Sanitary Staff—so-called.* The investigation of infectious diseases, as at the present time. I hold morning consultations at my office with the Inspectors who are engaged in this work so that each may know what is taking place in the others district, the school officer and perhaps the school nurse would join in these deliberations.

*B. The School Nurse* would prepare children for examination and possibly assist in the actual medical examination in such matters as obtaining weight, measurements, and recording observations as to cleanliness and clothing. She would further visit at the homes of such cases as may be considered necessary and report to the School Medical Officer. She would also recommend cases for treatment at the school clinic and be present with the Medical Officer on the days when treatment is undertaken.

*C. The Assistant Medical Officer.* In the majority of instances he would carry out the actual examination as set out in the form submitted, in certain cases of difficulty he would make home enquiries and would keep a daily list of work done for presentation to the Medical Officer of Health. He would also attend at the medical clinic and give advice in respect of such cases as it had already been decided should be thus treated.

*D. The Medical Officer of Health* would organise the whole work and generally supervise its execution, he would collate the statistical matter and draw deductions, he would report to the Committee making such suggestions as he thinks the circumstances warrant.

In this manner I believe the spirit of the memorandum would be met and by all working in one department, that co-ordination of health work which is the keynote of the scheme would be effected.

*E. Teaching Staff.* An important criticism which has been directed against present educational methods is, that the heads of the school departments are involved in too much clerical work and that therefore their attention is distracted from the primary reason of their existence, viz., the direction of the educational course. As there is some truth in this criticism it is necessary that this new work should not add to their burden more than may be found absolutely necessary. The memorandum suggests the keeping of a register. If this is kept in book form it will involve a considerable amount of labour, inasmuch as it will necessitate an enormous amount of transcribing, as when the children are passed from the Infants to the Senior Department, and when a child changes its school. It is also difficult to keep a book in such a form that the children who mature for examination each year will be readily found. As an alternative I suggest that the register should be kept in the form of cards on a system which can better be explained than described.

(System will be explained).

By this system a child passing from the Infants to the Senior department will be accompanied by its card. The same card will be forthcoming at each examination and a full record of its history will thus be available. In the case of a transfer from one school to another a request will be sent by the new Headmaster or Mistress to the late Head for the card. In this way the only clerical work which will devolve upon the teacher will be (1) the entering of such observations on the card as one teacher may consider it necessary should be made to another in the interests of the future education of the child, and (2) letters notifying parents of the date of the medical inspection. Even this will be lessened as much as possible by using printed forms. The teacher will be informed by the

Medical Officer that on a certain date he purposes visiting the school, he will state how many children he can examine on that particular day, and the parents of that number of children will be written to and requested to be in attendance.

As to the development of the scheme I suggest the following outline:—

1. To organise the work so that the medical examination of all children admitted into the Infants' department shall be first got into smooth working order.

2. That the present system of examination in the higher departments of children presenting defects should be continued for the present year.

3. That later in the year the scheme for a medical clinic shall be submitted for your consideration with a view to its being in work at the end of the present year or early in 1909.

4. That all other work such as the sanitary condition of schools, the supervision of infectious diseases, the examination of the staff and special school work shall be continued as at present.

5. That anthropometrical data shall not form part of the scheme for the present year but shall, as early as possible, after the rest of the scheme is in operation, be undertaken.

6. That in 1909, children who have matured for the second examination shall be added to the work to be carried out, so that in 1910 the full organisation may reasonably be expected to be in operation.

7. Future developments on the lines of the consideration of school methods, including physical training, of differentiation of scholars, of discussions with the teachers regarding any evils observed and supposed to result from present methods, and the necessity for the feeding of school children, and so on, will be brought forward as sufficient information is forthcoming to justify attention being given to these or any other special aspects of school hygiene.

It is obvious that when the whole of the above work is fully organised as it will be in a few years' time, additional assistance beyond that which is suggested may be found necessary, but for

the present I am of opinion that the scheme can be developed on the lines indicated, and I venture to express the hope that these recommendations will meet with your approval, and in submitting them to you, I desire to state that I have considered the matter from the point of view of the highest economy compatible with efficiency."

This report was considered at a meeting of the General Purposes Committee, held on January 15th, 1908, and the following resolution was passed:—

"That, for the year ending 31st March, 1909, the duty imposed upon the Education Committee under Section 13 of the Education (Administrative Provisions) Act, 1907, be limited to the medical inspection of children admitted to Public Elementary Schools during that year, subject, however, to the system of medical inspection hitherto in force, being continued for the present year, and to all other work, such as the inspection of the sanitary condition of school premises, the supervision of infectious diseases, the medical examination of the staff, and of the children attending the Special School, being continued as at present, and that Dr. Howarth be requested to submit an estimate of the probable expenditure."

**Notification of Infectious Diseases.**—The notification of cases of infectious diseases by the head masters and mistresses to the Medical Officer of Health has continued. In the year under review the number of cases so notified was 2,256 as against 495 in the previous year. The enormous difference in these totals is due to the fact that 1907 was a "measles" year, and to the aggregate, that disease alone contributed 1,621 cases, as against 14 in the previous year. This very fact alone shows the extent to which this disease interferes with school work, and any action, therefore, which can be taken to limit its extension should be taken advantage of. The necessity of notification of first cases has frequently been emphasised and the following extended notice of this subject is submitted for your consideration. The number of cases of scarlet fever which have been notified has again been fewer, viz., 24, as against 29 in 1906, and 83 in 1905; the cases of chicken-pox were more numerous, as were cases of diphtheria which increased from 78 to 89.

TABLE XI.—Cases of Infectious Diseases notified by the Teachers in the various Schools within the Borough.

SCHOOL.	Scarlet Fever.	Measles.	Chicken pox.	Diph- theria.	Mumps.	Whoop- ing Cough.	Small- pox.	Various
Ashbourne Road ..	1	192	11	7	3	2	—	5
Brighton Road ..	2	78	35	—	1	35	—	15
Firs Estate ..	—	38	—	—	—	—	—	—
Gerard Street ..	3	46	11	2	1	19	—	18
Nuns Street ..	—	52	—	—	—	—	—	—
Orchard Street ..	—	37	—	—	—	2	—	—
Osmaston ..	1	61	—	—	1	—	—	1
Pear Tree Council ..	1	108	3	7	1	2	—	4
St. James' Road ..	4	185	47	19	3	3	—	31
Traffic Street ..	1	43	1	9	—	—	—	—
All Saints' ..	—	21	3	1	1	7	—	—
Canal Street ..	—	15	—	1	—	—	—	—
Christ Church ..	—	16	6	4	—	6	—	1
Curzon Street ..	—	25	4	—	—	—	—	—
Parliament Street ..	—	8	1	—	—	1	—	—
Pear Tree Mission ..	—	23	—	—	—	1	—	—
Practising ..	1	84	—	—	—	—	—	10
St. Alkmund's ..	—	41	1	1	1	1	—	6
St. Andrew's ..	—	32	1	2	2	2	—	—
St. Anne's ..	—	74	—	4	1	—	—	1
St. Chad's ..	3	36	33	17	6	27	—	37
St. Dunstan's ..	1	25	—	—	—	—	—	—
St. James' Church ..	—	41	7	1	—	—	—	—
St. John's ..	—	38	2	—	3	25	—	6
St. Joseph's ..	—	10	—	—	—	—	—	—
St. Luke's ..	—	18	1	2	2	12	—	4
St. Mary's ..	—	—	—	—	—	—	—	—
St. Paul's ..	3	94	—	4	2	2	—	3
St. Peter's ..	—	80	—	2	—	8	—	—
St. Thomas' ..	—	—	—	—	—	—	—	1
Trinity ..	3	97	4	6	7	3	—	15
Special ..	—	3	—	—	—	—	—	—
Municipal Secondary ..	—	—	—	—	—	—	—	—
Total ..	24	1621	171	89	35	158	—	158

**Prevalence of Measles.**—During the first nine months of this year, measles was the direct cause of no fewer than 79 deaths, a total not exceeded during the same period by the combined deaths from all the notifiable diseases together, viz., 58. In this total of the mortality no account is taken of indirect causes resulting from such complications as broncho-pneumonia, debility, consumption, and the like.

The Education Committee by the various acts which it administers, compels the attendance at school of all children between the ages of 5 and 14; *that* compulsory attendance carries with it the obligation to see that any pernicious influences resulting from the aggregation of large numbers of children are minimised as far as the best known practical means will allow. Further, as the contributions of the Central Education Authority towards the expenses of educational work are based upon attendances, any factor which interferes with the continuity of a child's appearances at school should receive careful consideration and the biennial epidemicity of measles and whooping cough do this to a greater extent than anything else which can be suggested.

The selection of a separate disease for detailed consideration is of advantage, for as our knowledge of infectious diseases increases, the fact that each has characteristics peculiar to itself is more and more prominently emphasised. Generalisations, therefore, become less and less desirable, in fact they may actually be dangerous, whilst specialisation becomes equally a desideratum.

### **Measles in Derby.**

In the accompanying table are set out all the available statistical details relating to the disease in this town except the actual numbers of notifications which are referred to later.

I find, on reference to my late predecessor's Annual Report, that measles was notifiable for three detached years in the eighties, viz., '84, '87, and '88, the reason for the stop being the excessive prevalence of the disease in these years.

## Number of Deaths from Measles during the last 30 Years.

YEAR.	AGE PERIODS.			TOTAL.	SEX DISTRIBUT'N.	
	0—1	1—5	5 upds.		Males.	Females.
1877	..	4	..	4	3	1
78	5	18	2	25	15	10
79	5	32	2	39	21	18
1880	16	31	2	49	23	26
81	1	2	..	3	2	1
82	3	25	2	30	18	12
83	7	21	2	30	18	12
84	3	24	1	28	13	15
85	7	15	5	27	11	16
86	2	2	1	5	3	2
87	22	72	7	101	41	60
88	4	15	1	20	11	9
89	1	1	2	4	3	1
1890	23	83	13	119	57	62
91	6	17	1	24	10	14
92	3	16	1	20	9	11
93	4	10	1	15	7	8
94	15	42	2	59	32	27
95	1	5	..	6	3	3
96	7	24	1	32	19	13
97	4	12	1	17	9	8
98	10	39	4	53		
99	5	18	1	24		
1900	28	66	3	97		
01	nil	nil	nil	nil		
02	6	31	1	38		
03	1	4	..	5		
04	2	12	1	15		
05	10	33	2	45		
06		2		2		
To week ended 28 Sep. 07	8	64	7	79		
TOTALS ..	209	740	66	1015	328	329

This table brings out certain very striking facts:—

(a). From 1877 to 1892, the sex distribution of deaths from measles was noted each year, and it will be seen that of a total of 657 deaths, 328 were of males and 329 of females, which strongly suggests the probability of an equal fatality of the disease on each sex.

(b). During the 31 years ending 1907, there were no fewer than 1,015 deaths attributed to measles. In that period the aggregate of the deaths registered from small-pox, diphtheria and scarlet fever was 1,159, or an excess over measles alone of about 15 per cent. which was made up as follows: 31 small-pox, 365 diphtheria, and 763 scarlet fever.

(c). Of the 1,015 deaths 949 or practically 94 per cent. occurred among children under the age of 5 years.

(d) There is a marked irregularity in the annual number of deaths, and this is due to the epidemic prevalence or comparative absence of the disease. The total number of deaths has varied from 119 in 1890 to nil in 1901. During the present year, as I have stated, 79 deaths have been registered, and only on three occasions in the period for which statistics are available has that total been exceeded, viz.: the occasion already referred to—1890, and in 1900 when there were 97 deaths, and in 1887, 101 deaths.

(e). The character of the epidemics is better shown by the actual notifications. During the years 1884, 1887, and 1888, years of voluntary notification, 513, 874, and 33 cases were notified. The want of continuity destroys the value of such figures for present purposes, but in 1899, I instituted the system of school notification and the following table gives the numbers received each year:

1899	312
1900	2,075
1901	332
1902	2,887
1903	128
1904	224
1905	1,973
1906	14
1907	1,621

This table brings out clearly the tendency which the disease has to become epidemic every other year. There is a break in this sequence, viz., in 1904 when the epidemic due that year was carried forward to 1905, as a matter of fact the outbreak did begin in November of 1904. Although the number of deaths does not run in such a regular sequence, it will be seen if the period prior to 1899 be examined that that year, judging from the numbers, was a non-epidemic year, and that the preceding odd numbered years, 1897, 1895, and 1893 were likewise non-epidemic, whilst the even numbered years 1894, 1896, 1898 and 1900 were epidemic years. No clearer demonstration is necessary that measles is practically existent in the town to a slight extent during each year, and becomes epidemic with almost certain regularity every alternate year.

#### History of the Outbreak in 1907.

The town was visited by an epidemic of Measles during the year 1905. At the commencement of 1906, there were very few cases known, and these were principally located in the district surrounding the Ashbourne Road School. These cases with dates of notification are as follows:—

Peach Street	...	...	January 29th
Cobden Street	...	...	February 2nd
Campion Street	...	...	May 4th
Peach Street	...	...	May 15th
Howe Street	...	...	July 23rd

at the same time the following cases at the north end of the town were also known:—

Bold Lane	...	...	January 25th
Wood's Lane	...	...	March
Exeter Street	...	...	May
Queen Street	...	...	October 2nd

The only other two cases notified during that year were in Upper Madeley Street, in August, and in a Court off the Burton Road in September.

During the rest of the year no information respecting other cases came to hand, and the town may be regarded as then free from the disease.

In February, 1907, a case of measles was notified from Pear Tree Council Schools, the patient resided in Leacroft Rd. The child was visited by a member of the Sanitary Staff, and as no further cases were reported or heard of, it was thought preventive measures had been successful, though the origin of the infection was not discovered.

On 16th April, the Headmaster of St. James' Road Council Schools reported that several children in his department were absent from school on account of the existence of measles in the houses at which they resided. (It should be remembered that the schools had been closed from March 28th to April 8th for the Easter vacation). These cases were investigated, and it was found that in eight families measles had attacked one of the younger children. These attacks all commenced during the vacation period, the date of the earliest onset being March 29th, and in this particular house there was a second case which was attacked on April 8th. In the remaining cases the onset of attack was dated 2nd, 2nd, 6th, 7th, 8th, and 9th of April. Of the eight children discovered to be suffering from measles, six were in attendance at the Infants' Department of St. James' Road Council School, one was too young to attend school, and the remaining case belonged to St. Thomas' School. As no notification of illness had been received from the Infants' Department of St. James' Road, a visit was made on the 18th, and subsequently a list of 90 cases of children suffering or suspected to be suffering from measles was received. Some of these were visited, and the onset of illness in the majority of such was found to correspond with the six previously referred to. No cases were discovered in which the illness began earlier than the week March 24th to 30th, i.e., the week in which the schools closed. The attacks having occurred during the time the schools were closed for the vacation, and the time required to make enquiries into the cause of absence was probably the reason for the delay in the information. As I have stated, on February 7th, there was a case of measles in this area, but I have not been able to connect the series constituting the present explosive outbreak with that case. There was probably a considerable number of cases in the Pear Tree area from the middle to the end of March, and even thus early, infection—contracted outside the school—of a scholar in attendance at St. Thomas' School had occurred, and one also at

Pear Tree Council School. Cases continued to be reported from St. James' Road School until July 24th, though the outbreak had practically subsided by the end of April. As regards the other schools in this district, no notifications were ever received from St. Thomas' School, though a later enquiry elicited the statement that up to the end of April about 25 cases had been known to exist.

A similar history could be recorded in the case of many other schools, but it is sufficient to state that the outbreak commenced during the month of February in the Pear Tree District, and had extended over the whole Borough by the end of July, coming to an end probably as a consequence of the exhaustion of susceptible individuals aided to some extent by the general closure of all the schools for the month's vacation.

The extension showed no regularity, passing over some schools to attack a more distant one, and returning at a later date to those which had thus been missed. The outlying districts of Alvaston were attacked by way of London Road, and this area apparently had been reached from the north side; Firs Estate and Gerard Street were the intermediaries between Ashbourne Road and the original seat of the outbreak.

As regards the number of cases, the following table shows the numbers notified from each infant department:—

St. James' Road Council	157	Orchard Street	..	..	36		
Pear Tree	..	..	64	Practising	..	..	83
St. Mark's	..	..	24	St. Luke's	..	..	14
St. James' H.G.	..	..	48	Curzon Street	..	..	25
Gerard Street	..	..	57	All Saints'	..	..	11
Firs Estate	..	..	36	Traffic Street	..	..	38
St. Chad's	..	..	26	St. Peter's	..	..	75
Nun Street	..	..	37	St. Andrew's	..	..	31
St. Anne's	..	..	64	Canal Street	..	..	15
St. John's	..	..	32	Trinity	..	..	49
St. Alkmund's	..	..	43	St. Dunstan's	..	..	21
Ashbourne Road	..	143	Osmaston	..	..	..	61
St. Paul's	..	..	95	Brighton Road	..	..	70
Christ Church	..	..	3	St. Thomas'	..	..	25
Special School	..	..	2	Parliament Street	..	..	7
St. Joseph's	..	..	5	St. Mary's	..	..	10
		836					571
				—			
				Total	..	1,407	

The following particulars have reference to certain features of the disease:—

Measles is an epidemic disease which begins with feverishness. The earliest symptoms are catarrh of the mucous membrane of the eyes, nose and upper respiratory tract. These symptoms persist for a few days when there develops a macular rash. This rash often comes out in the night between the third and fourth days. It is generally seen first on the forehead where the hairy scalp joins the skin, or behind the ears, from which it spreads to the cheeks, chin and neck, and in some hours it may affect in succession the trunk, arms and lower limbs.

As a disease of childhood, it is generally easily recognized when the rash appears, but unless an epidemic of measles is prevalent, the catarrhal symptoms above referred to are not associated with measles as they are practically indistinguishable from those of an ordinary cold.

**Infection.**—The disease is undoubtedly infectious, and like many other of this class of ailments, it is due most probably to a micro-organism. From a preventive point of view the following facts relating to the infection are of importance:—

(a) The disease is probably most infectious during the stage of catarrh. It may be that for a short time before the onset of these catarrhal symptoms it is also infectious.

(b) The infection is probably not of a very persistent type, nor is it very probable that a third healthy person has very much power of conveying it from the sick to others, neither is the infection retained long by articles of clothing or in the sick-room.

**Frequency of Attack.**—It is considered by some authorities that measles may attack an individual more than once. Rotch in his "Hygiene and Medical Treatment of Children," Vol. 1, page 573, states "Measles can occur three or four times in the same individual. This recurrence was one of the peculiar features of the epidemic in Boston in 1880." On the other hand, Henoch in his "Lectures on Children's Diseases," Vol. 2, page 260, states "That one individual may have measles twice just as he may scarlet-fever

twice is certain, still I think that the number of such cases is greatly over-estimated, especially by the laity."

I, personally, strongly incline to the latter of these two opinions and consider that in many cases where children are suffering from an undoubted attack of measles, which attack is regarded as the second in the child's history, that the first attack was some other disease mistaken for it. Measly rashes are frequent in many other diseases and other less serious ailments such as roseola, German measles, simple erythema, and it may be that even mild scarlet fever has been mistaken for it. Of these, probably German measles is the most frequent source of error.

**Age Incidence of Attack.**—It is probable that very few people are insusceptible to measles. The greatest susceptibility is below ten years of age. Adults are rarely attacked, but this is more probably on account of the fact that they are already protected by a previous attack for so very few people escape the disease in early childhood. In isolated communities where the infection of measles is introduced say for the first time or after a very long interval as in the historic outbreaks in the Fiji Islands, persons were attacked *at all ages*.

Out of 2,031 notifications received by one English town, the attack rate per 1,000 of the population under 5 years of age was 137, from 5 to 10 years of age 62, and from 10 upwards 0.75.

**Mortality from the Disease.**—The mortality varies at different ages, it is nothing like such a fatal disease between the ages of 5 and 10 as it is between the ages of 1 and 3, and the obvious deduction is that the longer a child can be prevented from having measles the more certain that child will be of recovering, and this fact alone justifies every endeavour being made to limit the extension of a measles epidemic.

**Period of Incubation.**—A further point which requires to be borne in mind is the period of incubation, that is the period which elapses between the exposure of the healthy person to infection and the development of the first symptoms of the disease. This period is not exactly the same in each case, but in the majority of instances it is 11 or 12 days. It has been reported as short as 5 and as long as 14.

One may fittingly conclude the above observations by directing attention to the fact that measles has a special predilection for large towns. This has frequently been commented upon and probably the dense aggregation of the population as well as the additional facilities for the spread of infection which are peculiar to towns are responsible for it. It is one of the zymotic diseases which, up to the present time, sanitary science has failed to influence to any notable extent.

The methods of dealing with outbreaks of measles may be discussed under the following headings:—

- (1) School closure.
- (2) School age of scholars.
- (3) Matters affecting school construction.
- (4) Other points, such as compulsory notification, hospital isolation, and so on.

1.—**School Closure.** School closure has in the past been regarded as the chief provision, though doubts are rightly being cast upon the efficiency of the procedure, and it will be well first to briefly refer to the regulations bearing on this point. Article 57 of the Education Code, 1907, is as follows:—

“If the Sanitary Authority of the district in which the school is situated, or any two members thereof, acting on the advice of the Medical Officer of Health, require either the closure of the school or any department thereof, or the exclusion of certain children for a specified time, with a view to preventing the spread of disease or any danger to health likely to arise from the condition of the school, such requirement must at once be complied with, but after compliance appeal may be made to the Board if the requirement is considered unreasonable.

There are obviously three different considerations, (a) closure of the school as a whole, (b) closure of any department, and (c) exclusion of certain children whether as individuals or classes, although this distinction is not made in the rule. It is necessary that a school shall be opened for 400 sessions to qualify for the grant, but

if either the school or any department is opened for less than that period, I understand that if the deficiency is not less than the number for which the Sanitary Authority required the school to be closed, that the grant would not be withheld.

If individual children are excluded and their absences are included in arriving at the average attendance, it is obvious that the influence will be greater on the final average attendance than when the whole school is closed during a time of epidemic and no session is held. Prior to 1904, a so-called epidemic grant could be gained which practically placed the two methods on the same footing financially as the absences of such children were not included in the total, but for some reasons which are understood to have been that the amounts paid were usually inconsiderable, that there were difficulties in its administration or that the money could be better used resulted in this article being expunged.

It is obvious then that the closure of a school or department involves no financial loss to the managers but exclusion of individual children does. I understand that the Board of Education have recently declared that an infant class as distinguished from a separate department may be excluded on the order of the Sanitary Authority, and such exclusion treated as a closure. This likewise would result in no loss of average attendance. It is very much to be regretted therefore that Article 101 was expunged from the regulations, for it is obvious that two opposite forces are at work, one demanding the regular attendance of children at school for the purpose of the grant and if erring at all, erring on the side of excessive zeal, with risks of too early attendance at school of a convalescent, and the other, the Health Department suggesting the absence of children from school who may only be suffering from a doubtful illness but whose exclusion seems desirable on general grounds. The situation is bound to create a strained relationship at times which was extremely improbable had article 101 been in operation. It was to the advantage of both school and the town that such exclusion could be made possible without involving the former in a monetary loss.

Without entering into the merits of exclusion or closure which is officially regarded as a serious step, there can be no doubt that on economic grounds alone, the present state of affairs distinctly tends to the direction of closure than exclusion.

Measles is not a notifiable disease, at any rate in this town, and therefore notwithstanding its extraordinary infectivity, it does not come within the legal definition of infectious diseases.

The procedure as regards exclusion and closure varies to some extent. All are agreed that a child suffering from the disease must be excluded as soon as it is recognised to be so suffering and until convalescence is established, but with reference to the exclusion of other members of the family of school age who are contacts, the exclusion of the remaining members of the class, and the question of closing the whole department or School some difference of action is to be observed. With reference to home contacts: such may be in attendance at an infants' department or one of the higher classes. It is a fairly general practice to require that all home contacts who attend an infants' department should be excluded for a stated **period** after exposure to infection. If, however, children do not usually take the disease twice, this seems an excessive requirement, but two main reasons seem to call for this action. As has already been pointed out many of the so-called second or third attacks probably result from the first attack having been diagnosed measles in error, and as it is a matter of the greatest importance to prevent "missed" cases of measles coming into contact with a large body of children at extremely susceptible ages, it seems to me desirable that the acceptance of the statement that a child attending an infants' school has already suffered from an attack, unless some proof is forthcoming which at the present time is rarely available, should not be accepted and therefore all contacts in attendance at infants' schools should be excluded. Again, although it is doubted by some that infection can be carried by a healthy intermediary, I do not consider it fully proved, and if such a possibility existed, even in a slight degree, it would be under conditions which would be productive of the maximum evil results. Contacts in the senior department are occasionally excluded irrespective of whether they have suffered from the disease or not, and in other places they are similarly permitted to attend, but in Derby, and I

think it is the more generally accepted plan, children who have suffered from the disease are allowed to continue in attendance whilst those who have not suffered are excluded. Compared with action taken in the infants' school this seems a contradictory distinction, but it really is not so. In all cases of infectious disease it is the practice to exclude children who have been exposed to an infectious disease during a period of quarantine. If a child has not already suffered from Measles, the chances are that it will if it is exposed to the risk, and therefore it should be excluded for at least a few days longer than the period of incubation. At higher ages, the objections which were raised against the attendance of infants are not of the same importance, for if a child is said to have had measles at these later ages, it most probably has and in addition the results from the introduction of infection by contact are now reduced to inconsiderable proportions since the numbers liable to attack are now smaller.

It seems to me therefore that as a precautionary measure, the exclusion of all contacts in infants' departments is necessary. The method of dealing with the class in which a single case of measles has occurred is more or less in the experimental stage, and two notable methods are worth reference, viz., that of Dr. Davies, of Woolwich, and that of Prof. Ebersteller, of Graz. To appreciate the principle it is necessary to remark on the method of the extension of measles. A child is infected in some way or other, if this is the first case in a district it perhaps continues to attend school for a day or two after the catarrhal symptoms—which are exceedingly infectious—have developed. There is absolutely no symptom at this stage which can be relied upon to indicate that such a child is sickening for measles and not a common cold. When the rash comes out the nature of the disease is evident and the child is excluded, in some instances the parent does not send word to the school why the child has been absent. The children who sit in the immediate vicinity of this child have been breathing air more or less charged with the infection of measles, and in about 14 days a varying number will again attend school with catarrhal symptoms and thus expose an increasing number of children to the same risk to which they were exposed. Thus two crops follow the first case. The teacher will now ascertain owing to the number of absentees

that measles is the cause, but it is now too late, the large second crop has been infected and this will comprise the greater part of susceptible material contained in the class and closure will now be practically futile.

In Woolwich, an arrangement was come to with the approval of the Local Sanitary Authority and the Education Department of the London Council whereby the town was divided into two nearly equal portions. In one half, any class in which even a single case of measles occurred was immediately closed, and in the other only the ordinary preventive measures of exclusion of children from infected homes. This was commenced in January, 1903, and the following results are both interesting and of value. In 1905-6, there was very little measles in Woolwich, but in 1906-7, there was an extensive outbreak. Measles in this outbreak attacked 22 per cent. of children in both districts, leaving 20 per cent. in the non-closing area unprotected as against 16.3 in the closing, so that although closure may temporarily delay an outbreak it had obviously very little effect in the long run. The observations also tended to show that when a class accumulates unprotected children to the extent of between 30 and 40 per cent., the disease tends to spread and that the spread continues until the proportion is reduced to between 15 and 20 per cent.

The second investigation which is perhaps more than an experiment, has been carried out by Dr. Erberstaller at Gratz, in Austria. This action which has the appearance of being theoretically sound is somewhat as follows: Measles may be regarded as having an incubation period averaging 12 days, but in some cases it is a few days less and in others a few days more. After the notification of a case of measles in a class he arranges for the *whole* class to be absent for a period of five days beginning with the ninth day after the sickening of the known case. Parents are informed of the fact of contact and the possibility of their children developing measles, and requested to carefully observe them during the above period. In this way he hopes to exclude the infected children from attendance.

Professor Erberstaller has made use of this procedure in 103 instances during eight years. In 91 cases only one class was closed,

on ten occasions two contiguous classes of the same school were closed at the same time, once three, and once four classes. The results show that 44 of such school closures were attended by complete success. In 10 cases the procedure was proved to have been superfluous as no secondary cases resulted and in 28 the procedure had apparently no success as further cases resulted immediately afterwards, and the class had to be closed afresh or have the closure prolonged. In the remaining 21 cases the result remained in doubt as the classes were again attacked a little later, i.e., during the time the epidemic existed in the district.

The whole aim and object of the above schemes is to deal with the cases resulting from contact with the first case. On the early recognition of the first does the success or failure of preventing a measles epidemic depend.

A missed first case, with a part of the resulting crop of measles cases attending schools in the catarrhal stage results in an outbreak of the disease which renders school closure of any degree practically a futile procedure, it is therefore obvious that no reliance can be placed on the last method to be considered, viz., the closure of a department when the attendance falls below a certain percentage. The variation observed in the methods adopted by different Medical Officers of Health illustrates the varying opinion held on this subject, and indirectly tends to prove the ineffectiveness of the method. Dr. May, of Aston Manor, tabulated a series of replies which he had received from 99 authorities in answer to an enquiry which he made of them on this particular subject, the summary is as follows :

47 had no fixed percentage for closure.

8 closed departments before attendances fell to 10 per cent.

18 when the attendances declined to between 10 & 20 per cent.

4    ,,           ,,           ,,           ,,    20 & 30 per cent.

7    ,,           ,,           ,,           ,,    30 & 40 per cent.

2    ,,           ,,           ,,           ,,    40 & 50 per cent.

2    ,,           ,,           ,,           to over 50 per cent.

11 gave no replies.

The key to the situation is, as I have already emphasised, the first case; if missed, the second crop, which occurs about three weeks after the first case, exhausts all the available material and

the outbreak dies out from that cause and not in consequence of school closure which is so often undertaken about that time.

Among the measures which have been adopted with a view to controlling epidemics of measles, notification—which is a feature in the case of several of the infectious diseases—has been suggested and in a few places tried. The value of the experiment is differently estimated; in Dover, it has been regarded as of considerable value, but at Pontypridd, Burton-on-Trent, and Aberdeen, it was not found to be of much value.

The difficulties which are met with are chiefly due to the fact that probably not more than one-half—if even so many—of the cases of measles are attended by Medical men who it must be admitted are in the main responsible for the successful working of notification schemes, and, secondly, because the fullest advantage cannot be taken of the knowledge thus acquired. When an outbreak of measles is at its height, the staff necessary to visit the cases would be considerably in excess of normal and it is not always possible to arrange for temporary assistance which would prove satisfactory. After giving consideration to this subject, and after an experience dating from 1881, Dr. Matthew Hay, the Medical Officer of Health for Aberdeen, concludes “that it is impossible to assert with confidence that notification has enabled us to exercise any distinct and effective control.” Practically the same result is reported from Burton-on-Trent, and one is forced to the conclusion that compulsory notification is not worth the expense.

Hospital Isolation has been suggested, but here again the enormous number of cases simultaneously attacked makes it a practical impossibility for any community to attempt anything like a general isolation of such cases. It might, however, be an advantage to remove cases which present urgency either from the point of view of inefficient home nursing, or unsatisfactory isolation, though it is very doubtful whether this minimum as is practised in Brighton, and I believe Blackpool, will be universally put into practice.

Disinfection after measles for the same reason is not generally carried out; and observation seems to show that it is hardly necessary, at least on the same elaborate scale as is practised after such diseases as small-pox, scarlet fever, or diphtheria. Dr. News-

holme of Brighton, made some observations on this point, and the following is taken from Dr. Thomas' paper on this subject in "Public Health," August, 1907. "In the spring of 1904, there was an epidemic of measles in Brighton, and in August and September of the same year, every house was visited in which during the previous seven months cases of measles had occurred. No disinfection had been carried out in any of these houses. Six hundred and twenty-five houses had been invaded; in 534 of these, the occupants were the same as on the first visit and no further children had been attacked by measles. The immunity of the 169 children in these houses, who had not previously acquired measles had continued. Of the remaining houses, twenty-three on investigation were found to be empty, and in sixty-six of these, new families were living or new babies had been born. Eighty-six new children had come into these presumably infected houses and twenty-seven of them were unprotected and possibly exposed to infection. The duration of their exposure in the presumably infected houses varied from seventeen days to four-and-a-half months. None of them acquired measles, and Dr. Newsholme concludes that if there had been a few instances of measles among the number he should have refrained from pressing a case based on scanty data, even though the the majority of the children had escaped infection. But in view of the fact that the entire experience points in one direction, it is justifiable to infer provisionally that the infection of measles is short-lived, and that domestic cleansing suffices for disinfection."

That is the attitude which we have always taken up in Derby, and although no disinfection is systematically conducted, a leaflet stating the precautionary measures which should be adopted is forwarded by post to the occupier of every house in which a case of measles is known to exist, and fluid disinfectant is given free of cost to all persons making application for the same under the above conditions, and domestic cleansing is encouraged.

In conclusion, the direction in which the best hope for success lies would appear to be the adoption of the following measures:—

1. The continuance of the present system of exclusion of scholars, viz.:—

- (a). The exclusion of all affected children for a period of three weeks.
- (b). The exclusion of all children attending the infants' departments who come from infected houses whether they have already suffered from measles or not.
- (c). The exclusion in the other departments of children coming from infected houses who have not previously suffered from the disease, whilst permitting those who have so suffered to continue in attendance.

2. The arrangement, if possible, of a more equitable basis of contribution by the Board of Education for the absence of a scholar on account of an attack on infectious disease or exclusion by order of the Sanitary Authority. This would act as a direct stimulus to teachers, and would result in an approximation of the divergent views of the teaching staff and the Sanitary Authority.

3. The Health Manual suggested in the report on Medical Inspection would be of value.

4. The importance of the notification of the first case has been shown to be the predominating factor in the control of measles, and to attain this end enquiry should be made into the cause of absence of all children, particularly such as are absent on three successive days. Not only would information of this kind be of value in the case of measles, but careful systematic enquiries would bring to light many other facts with which the Medical Officer should be acquainted. As many of these enquiries will be made by the Attendance Officers, and as they will be made at homes where the powers of observation of the parents, to say the least, have not been trained to a very high state of perfection, it would appear desirable that they should be possessed of a sufficient knowledge of the chief symptoms of infectious ailment so that in particular instances where sickness is the cause of absence and no medical man is in attendance, they may put leading questions, the answer to which might justify them in reporting the occurrence to the Health Department with the idea of a visit being made by someone competent to make a diagnosis. It is further desirable that reports

such as the above should be sent to the Health Office that same day and so avoid the delay consequent upon a report being made first to the teacher, and then by the teacher to the Medical Officer. If the fact that such a report had been made to the Medical Officer were noted on the report to the teacher, the latter would not be under the necessity of intimating the fact.

5. In an inter-epidemic period the notification of the first case of measles should be followed by a circular letter to the heads of all departments intimating them of the fact, and I think that it would be of advantage to send to each school every Monday morning a list indicating the known incidence of the various zymotic ailments on the different schools in the town. Although a school might have a clean bill of health as regards such diseases, it would be valuable information to the teachers to know whether any infectious diseases were prevalent in the particular locality from which the pupils are drawn, for if they were they would direct special attention to be made to prevent the introduction of such cases into the school. Such a measure would entail some amount of trouble, but I think the return would be commensurate. It is simply a local application of the inter-town notification of cases of infectious diseases as carried out by the Local Government Board.

6. Next in importance to recognition of the first case is the exclusion of the first crop, and though the exclusion of the whole class for varying periods on the occurrence of the first case has not been followed by a sufficient degree of success to justify my recommending its adoption, I think that an alternative in the way of communicating to the parent of every scholar of a class in which a child has been in attendance in the catarrhal stage of the disease the fact that their child has been exposed to the risk would be beneficial. Such communication should give the probable date of the development of symptoms and also the nature of the symptoms, and a request that if such show themselves the child should be excluded and the teacher informed. The following circular on these lines was issued at Woolwich :—

" Notice to The Parent or Guardian of .....	From The Head Teacher (Infants' Dept.).....School
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As a case of Measles has occurred among the scholars in the class which your child attends, it is possible that..... may have contracted the disease. As it requires about twelve days for measles to develop after infection, you are requested to pay particular regard to the state of your child's health during the NEXT THREE WEEKS, and upon the slightest sign of illness to abstain from sending.....to school.

Date..... Signature.....  
P.T.O.

#### NOTE.

Measles may be a very serious illness in young children, and many die from it. The early symptoms are those of a cold, which may be at first slight; there is generally running at the eyes and nose, sneezing, and possibly cough. Many children lose their lives because parents allow them to go out of the house, thinking that the indisposition is only a slight cold, when it is really measles.

7. The fact that the outbreak of measles usually begins amongst the younger scholars in the infants' department, and that it is amongst these children that the disease chiefly spreads, has provided one of the main reasons in favour of increasing the age limit of school attendance. The arguments pro. and con. are, in brief, as follows:—

At the present time children under five years of age are not required by law to attend school, and as the Education Code of 1905 stated "there is reason for believing that the attendance of such children is often accompanied by danger to health." Children at the age of five and under are growing fast and are much prejudiced by living in a vitiated atmosphere. In addition to the increased fatality of infectious diseases on children at these ages, there is an increased liability to attack. This has been investigated by Dr. Newsholme, who shows that of 76 children aged three or under, 57 per cent. had not had measles, whilst of 78 children aged six to seven, only 14 per cent. had not so suffered. Exclusion therefore

of children at the younger ages would tend to diminish the attacks in the school generally, if there were fewer attacks the age incidence would be raised and therefore there would be a lessened mortality. From the parent's point of view it is in many instances an advantage to have these young children out of the house as they are thereby better able to attend to their domestic duties. If these younger children were excluded, it would result in a diminished attendance of the senior girls, inasmuch as the parents would keep them at home to help in the house. From the teacher's point of view, it is a question whether this early training is of much value intellectually. Many argue, and perhaps rightly, that at these early ages they are taught the power of concentration, and if that is so, it is very valuable for future training. From the ratepayer's point of view, these children take up about one-tenth of the accommodation, and it cannot be disputed that in consequence of the liability to infectious disease the presence of these children materially interferes with the education of the others. It is a matter for consideration therefore, whether children under five or even under six should be allowed to continue at school. I make no immediate recommendation on the point but will return to the subject when I have sufficient local data to justify a definite recommendation.

8. The last aspect of the case is the important one of ventilation. A room is supposed capable of accommodating so many children on the basis of a definite number of square feet per child. Although the class-room contains the requisite number of square feet, the children during lessons are gathered together in only one small part of it. The air surrounding these children becomes extremely vitiated, and in the case of a child giving off infective particles, children in its immediate vicinity are receiving a concentrated dose. This obvious fact necessitates the greatest care and attention being paid to efficient ventilation, and in all new schools this point should be thoroughly enquired into and in existing schools investigation should be undertaken with a view of ensuring that ventilation is efficient.

**Factories and Workshops.**—The following table classifies the Workshops in the Borough in each Inspectorial District, and the number of visits made to each :—

## LIST OF WORKSHOPS.

No. ON REGISTER. INSPECTORIAL DISTRICTS.				TRADE.	No. OF INSPECTIONS. INSPECTORIAL DISTRICTS.			
A.	B.	C.	W'm'n		A.	B.	C.	W'm'n
1	..	..	..	Artificial Teeth ..	..	..	..	..
..	..	1	..	.. Limb ..	..	..	1	..
12	6	8	..	Boot Repairer ..	1	14	9	..
1	..	..	..	Blind Maker ..	4	..	..	..
1	..	..	..	Brush Maker ..	..	..	..	..
2	1	1	..	Basket Maker ..	..	1	2	..
..	2	5	..	Blacksmiths ..	..	..	3	..
..	1	..	..	Beer Bottler ..	..	..	..	..
1	3	1	..	Carriage Builders ..	7	..	1	..
3	6	1	..	Cabinet Makers ..	..	6	2	..
2	..	..	..	Confectionery ..	..	..	..	..
..	6	..	..	Cycles ..	..	1	..	..
..	..	1	..	Carpenter ..	..	..	1	..
1	1	..	..	Dyer ..	1	..	..	..
1	..	..	..	Drug ..	..	..	..	..
..	..	1	..	Drysalter ..	..	..	9	..
..	..	..	95	Dressmakers ..	..	..	..	97
..	..	..	14	Dressmakers & Milliners ..	..	..	..	19
1	1	..	..	French Polishers ..	..	4	..	..
1	..	2	..	Furniture Maker ..	..	..	..	..
..	1	..	..	Fruit Preserving ..	..	..	..	..
..	1	..	..	Gun Repairer ..	..	..	..	..
1	..	..	..	Hair ..	..	..	..	..
..	..	..	1	Hosiery Makers ..	..	..	..	1
1	..	..	..	Ice Cream ..	1	..	..	..
10	..	1	..	Jewellers ..	11	..	1	..
8	2	..	..	Joiners ..	7	..	..	..
1	..	..	..	Lemon Curd Maker ..	1	..	..	..
..	1	..	..	Leather Cases ..	..	3	..	..
..	1	1	..	Leather Currier ..	..	14	1	..
..	2	..	..	Lamp and Iron Brackets ..	..	4	..	..
..	1	..	..	Locksmiths ..	..	2	..	..
..	..	..	4	Laundries ..	..	..	..	5
4	..	..	..	Mineral Water ..	5	..	..	..
..	2	..	1	Manufacturing Chemist ..	..	6	..	1
..	4	..	..	Maltster ..	..	..	..	..
..	..	..	33	Milliners ..	..	..	..	40
7	2	6	..	Plumbers ..	10	..	25	..
3	..	2	1	Photographers ..	..	..	1	1
..	1	..	..	Plaster Figure Makers ..	..	..	..	..
1	..	..	..	Pickling ..	3	..	..	..
..	1	..	..	Pipeclay ..	..	..	..	..
..	1	..	..	Picture Framer ..	..	..	..	..
..	..	2	..	Paper Bag Maker ..	..	..	1	..
..	..	..	2	Pinafore Maker ..	..	..	..	3
..	2	..	..	Rag Sorting ..	..	..	..	..
1	..	..	..	Rope Maker ..	..	..	..	..
6	..	..	..	Smiths ..	3	..	..	..
1	1	..	..	Surgical Bandage Maker ..	..	..	..	..
1	..	..	..	Sewing Machine Repairer ..	1	..	..	..
1	..	..	..	Stone Mason ..	1	..	..	..
..	1	..	..	Stove Grate Fitter ..	..	1	..	..
..	2	..	..	Shoe-smith ..	..	4	..	..
..	..	1	..	Sign Writer ..	..	..	..	..
..	3	..	..	Spa Turner ..	..	4	..	..
..	2	2	..	Saddlers ..	..	..	2	..
..	..	..	2	Straw Hats ..	..	..	..	2
38	8	8	34	Tailors ..	22	4	6	40
4	2	3	..	Tinplate Workers ..	9	..	2	..
..	..	1	..	Tarpaulin Maker ..	..	..	14	..
3	1	..	..	Upholsterer ..	..	..	..	..
2	..	1	..	Umbrella Maker ..	1	..	1	..
..	..	..	1	Underclothing ..	..	..	..	1
1	5	2	..	Wheelwright ..	..	1	2	..
..	1	..	..	Weighing Machine ..	..	1	..	..
..	..	1	..	Watch Repairing ..	..	..	..	..
..	..	..	..	104 Bakerhouses ..	672	..	..	..
121	75	52	188	Totals.	91	70	84	210

No alteration has been made in the details of supervision of the sanitary conditions of Factories and Workshops. I have frequently referred to the necessity of a separate inspector for this work. It is practically impossible for the present staff to do more than attend to the work of remedying obvious defects which come under their notice, or which are notified by the Factory Inspector. These remarks do not apply to the places where women are employed, as the women inspectors are able to devote more time to this work than are the men; and part of the routine duty of the former is the systematic inspection of outworkers' premises, and also such places in which it is known that women are employed.

Considerable difficulty continues to be experienced in obtaining twice a year from employers the lists of outworkers whom they employ, and with a view to making this requirement more generally known, prosecutions were ordered in five cases of failure—in each instance a conviction was obtained. The chief trades in which outworkers are engaged in this town are the making of wearing apparel and the making of lace and nets. Seventy lists were received during the year, affecting 958 workpeople—this represents double the actual number as two lists a year are sent—and to this total must be added 12 lists received only once, on which were the names of 27 workpeople. 16 lists of workpeople engaged in Derby by firms outside the town were received, and 65 lists were forwarded to other local authorities, having reference to Derby firms who employed people on this work resident outside the town. The lists involved the women inspectors in 758 visits. As a consequence of these visits, 16 notices were served to remedy defects which were discovered and in 3 instances further work was prohibited owing to the existence of infectious disease on the premises. Twenty-four notices were received from H.M. Inspector of Factories, relating to defects which he had discovered, and reports of 30 actions which had been taken were forwarded to him. The failure to affix an abstract of the Act (S. 133) in the workshop was reported to the Factory Inspector on 3 occasions.

There is only one underground bakehouse in use in the town.

The following are the tables of action taken and work done, which are required to be forwarded to Secretary of State.

### 1.—INSPECTIONS.

Including inspections made by Sanitary Inspectors or Inspectors of Nuisances.

PREMISES.	NUMBER OF		
	INSPECT- TIONS.	WRITTEN NOTICES.	PROSE- CUTIONS.
Factories (including Factory Laundries)	43	3	0
Workshops (including Workshop Laundries) .. ..	1127	63	0
Work Places (other than out-workers' premises) .. ..	3	2	0
Total .. ..	1173	68	0

### 2.—DEFECTS FOUND.

Partieulars.	Number of Defects			Number of Prosecu- tions
	Found	Remedied.	Referred to H.M. Inspector	
Nuisances under the P.H. Acts—				
Want of Cleanliness ..	19	17	0	0
Want of Ventilation ..	8	8	0	0
Overcrowding .. ..	5	4	0	0
Want of Drainage of floors	0	0	0	0
Other Nuisances .. ..	27	27	0	0
Sanitary Accommodation—				
Insufficient .. ..	7	7	0	0
Unsuitable or Defective ..	10	10	0	0
Not separate for sexes ..	0	0	0	0
Offences under the F. & W. Act—				
Illegal occupation of un- derground bakehouse (S. 101) .. ..	0	0	0	0
Breach of Special Sanitary requirements for Bake- houses (SS. 97 to 100)	113	113	0	0
Other Offences .. ..	0	0	0	0
Total .. ..	189	186	0	0

## 3.—HOME WORK.

	NATURE OF WORK.		
	Making Wearing Apparel.	Making Lace and Net.	Total.
Twice a year—			
Lists .. .. .	64	6	70
Workmen .. .. .	273	685	958
Once a year— ..			
Lists .. .. .	12	0	12
Workmen .. .. .	27	0	27
Addresses of Out-workers—			
Received from other Councils	6	10	16
Forwarded to other Councils	7	58	65
Prosecutions—			
Failure to send Lists ..	5	0	5
Convictions .. .. .	5	0	5
Inspection of Premises ..	261	497	758
Notices served to remedy			
Defects .. .. .	4	12	16
Outwork in Infected Premises	1	2	3

## 4.—REGISTERED WORKSHOPS.

Boot Repairers .. .. .	26	Plumbers .. .. .	15
Cabinet Makers .. .. .	10	Tailors .. .. .	88
Dress Makers .. .. .	95	Bakehouses .. .. .	104
Dressmakers & Milliners	33	Others .. .. .	144
Jewellers .. .. .	11		—
		Total .. .. .	540

## 5.—OTHER MATTERS.

Notified to H.M. Inspector of Factories :—

Failure to affix Abstract (S. 133)	..	..	..	..	3
Action taken in matters referred to H.M. Inspector as remediable under the Public Health Acts but not under the Factory & Workshops Act (S. 5)	}	Notified by H.M. In- spector	..	..	24
		Reports sent to H.M. Inspector			30
Complaint returned as “ No action necessary ”		..	..		1
Underground Bakehouses (S.101)					
Certificates granted during the year		..	..	..	0
In use at the end of the year		..	..	..	1

**Work of Women Inspectors.**—The following report has been prepared by Miss Wilkinson, Senior Woman Inspector:—

The work undertaken by the women's department is varied and may be shortly summarised as follows. (a) Visiting the homes after registration of a birth to give instruction in the care and feeding of the baby and also instruction in domestic hygiene, (b) visiting cases of non-notifiable diseases occurring among school children, (c) inspection of workshops where women are employed, and also the homes of outworkers, (d) inspection of midwives, and (e) visitation of notified cases of phthisis.

**INSTRUCTION IN INFANT REARING.**—Visits to the homes to give instruction in the care and feeding of infants have been continued during the past year. The Registrar has continued to forward each week the names and addresses of all births registered. A visit has then been paid to each home where it was thought instruction would be needed. As an interval of six weeks is allowed in which to register a birth, it often happened that the death was also registered at the same time, or at the time of visiting it was found that many women had adopted a line of procedure in the feeding of their children which was almost beyond recall. This obviously had the effect of materially decreasing the value of the work. This objection is removed by adoption of the "Notification of Births Act," which provides for the notifying of every birth direct to the Medical Officer of Health within 36 hours of its occurrence. The work in connection with the adoption of this Act has been organised, and the homes are now visited for giving instruction to the mothers as soon as it is thought advisable after the notification has been received. Particulars of each visit are then recorded on separate cards.

The visits are nearly always welcomed and in many cases now looked forward to. This is extremely satisfactory as any supposed interference in the home affairs would be quickly resented. That the people should look upon us as friends is our aim and endeavour, for the success of our work depends wholly on the way in which we are received. In some few cases the advice of the grandmother has to be reckoned with, for her years and experience carry much

weight. She has probably had a large family and is perhaps possessed of conservative ideas and does not seem to realise that where 50 per cent. or so of the children have died, it is usually due to some fault in the method of rearing, and could in many cases have been prevented.

The visits which would appear to give the best results and satisfaction are those where the father is in regular and fairly remunerative employment, which enables the mother to devote her whole time to the care of the home and to the upbringing of her children. Instruction involving a little extra expense can generally be followed, and is in most cases eagerly carried out—of course the work of educating the mothers to a proper appreciation of all details which affect health will be of slow growth, and it must be confessed is at times a little disheartening.

The effect of irregular employment of the father is more far-reaching than would at first appear. The mother is unable to provide for herself proper nourishment, and as a result, is without energy and hope, and is quite incapable of using to the best advantage those few things she is able to obtain. The insuring of a sufficient supply of nourishing food for the nine months before and after the birth of the child would have a material influence in lowering the infantile death-rate. The children at birth would have a stronger vitality and a greater resisting power, and the mother would probably have a sufficient supply of nourishing milk, consequently breast-feeding would be continued for the natural period—the children would be stronger, sturdier, and of finer physique and there would consequently be a diminution in artificial feeding. It is not only in the very heavy death-rate from summer diarrhoea that artificial feeding seems to be the great contributing factor, but it conduces to a lowered vitality, so that such children succumb more readily to diseases which apparently have no direct relation to feeding.

It is obvious then the most powerful weapon in this crusade against infantile mortality is breast-feeding and to foster which all efforts must be directed. With this end in view, the instruction given is not alone concerning the baby. The mother is advised as to the care of her own health and guided in the choice of obtaining the greatest food values for the very limited amount of money at

her disposal. Instruction is also given in some cases as to the best mode of preparing and cooking the foods suggested. The ignorance displayed by the poor in the selection of the most suitable foods and also as to the most economical method of preparing and cooking them is appalling.

Care in the matter of clothing is of great importance, one not infrequently finds children clothed in washed-out flannelette. This is not always from lack of the necessary money but because of the mistaken idea that children so clothed from birth will be less susceptible to cold. The lack of adequate clothing retards development and saps the vitality and resisting power of the babies. It has been satisfactory to note when revisiting that the advice as to proper clothing has been in many cases followed. The appreciation of the necessity for warm and light clothing should have an influence too in reducing the number of deaths from bronchitis and pneumonia. Other points which affect the baby deleteriously and which are not sufficiently appreciated are (1) the necessity for fresh air, and (2) the providing of a cot; however, the value of these are being more generally understood, and where the money for purchasing a cot cannot be spared the substitute of a banana crate is recommended, which for a few pence can easily be fitted up as an admirable cot. During the year, 2,785 visits have been made to give instruction in this branch of the work, and 1,704 revisits have been made by the nurse where it was considered that a second visit would be helpful.

NON-NOTIFIABLE INFECTIOUS DISEASES.—605 visits have been paid to the homes of school children who had been reported as suffering from a non-notifiable disease. Early in the year an outbreak of measles occurred, and it was in connection with this disease that most of the visits were paid.

INSPECTION OF WORKSHOPS.—At the beginning of the year, there were 133 workshops on the register. During the year 40 new ones have been added. All have been systematically inspected. As regards cleanliness they were found to be in a fairly satisfactory condition. It was found necessary to require the cleansing of only 8 of the workrooms. Five of the workrooms were found to be overcrowded. The Factory and Workshop Act, 1901, requires 250 cu.

ft. of air space for every person employed. It is found generally that the tendency is to use the air space up to the limit allowed. The means of ventilation have been found to be what is "generally regarded" as sufficient. These, however, are not always utilized, and consequently many of the workrooms were found to be very stuffy. The workers generally complain of draught and cold if the windows are open. Suggestions for improving the ventilation to prevent draughts have been made and in many instances have been carried out. The allowance of 250 cu. ft. of air space per person cannot be looked upon as ideal, and when coupled with defective ventilation, the health of the worker is often seriously impaired.

INSPECTION OF OUT-WORKERS.—Out-workers are people who have work to do from a factory or workshop at their own homes. 985 names of such people have been received from employers; of these, 685 are net menders, and 300 are engaged in the making of wearing apparel. Lists are received twice in each year, many names therefore are duplicated, and in this way the actual number of out-workers is less than the number of names received. The total probably approximates 650. 758 inspections have been made of the out-workers' homes. The outwork in Derby is light and clean, and the conditions under which it is done are generally satisfactory. It was found necessary to serve notices for the cleansing of only 16 premises. The conditions of home life prevailing in homes where the mother is an outworker, is generally better than where the mothers go out to work, charing, etc. The home is generally cleaner and more comfortable and the children more carefully attended. This can be accounted for by the fact that the mother who goes out to work comes home tired out. The out-worker generally attends to her house duties before commencing the work; then too, the out-worker generally receives more remuneration for her labour than the woman who goes out charing. However, it is found usually that the infants under 12 months, whose mothers are out-workers, are not taken out sufficiently, and also that the lack of exercise tends to affect injuriously the mother's health which when the baby is being nursed, necessarily has a deleterious influence on its health.

The Secretary of State for the Home Department has asked for some information relating to the mortality of infants under one year of age, whose mothers are engaged in any kind of work other than their domestic duties, and it is hoped that during the year this work will be commenced.

With this end in view, the card for recording the particulars of the visits paid in connection with Infant Rearing was designed to include much of the required information. It is necessary that such statistics should be obtained. The home-worker is the class of worker for whom the State can least control the conditions of work. In Derby the conditions under which the homework is done and also the class of work and remuneration may on the whole be said to be good; but the homemaker for whom the protection of legislation is needed may be found in hundreds in many large towns where for 12 to 15 hours daily labour, the weekly earnings can only amount to a few shillings. This scale of wages coupled with the high rents and scant accommodation easily accounts for the poor physique and want of vitality and energy of the slum dwellers in our large towns.

INSPECTION OF MIDWIVES.—Systematic inspection of the midwives practising in Derby has been carried out during the past year. 58 midwives notified their intention to practise. Of these, 29 are bona fide, the remaining ones have received some training. (The midwives belonging to Public Institutions have not been inspected).

There has been a marked improvement in the keeping and fitting up of bags, and also in the care of their own persons. Advice has been given as to the most suitable appliances to be used, and instruction as to the method of disinfection, both when attending and after a case. It is satisfactory to note that many bona fide midwives do not take a secondary place in the keeping and fitting-up of the bags, etc. There has been a failure on the part of a few midwives to properly enter up the cases in the way required by the Central Midwives' Board, and a small number have also failed to notify to the Medical Officer of Health, the occurrence of stillbirths and the record of sending for medical help. However they all seem anxious to carry out the rules satisfactorily, and it is

found that the instruction given is always listened to carefully and an endeavour is made to carry it out in an intelligent manner. 100 visits for the purpose of inspection have been made. 35 letters have been sent calling attention to defects, and it was found necessary to request 9 midwives to attend the Sanitary Offices for the purpose of being interviewed by the Medical Officer of Health. A series of three lectures were arranged in the autumn of this year, and were given by Miss Athill at the Nightingale Nursing Home, London Road. They were fairly well attended, and I believe much appreciated.

### Summary of Women Inspectors' Visits.

Number of Visits Paid to give Instruction in the Feeding and Care of Infants	...	...	...	...	2,785
Number of Visits <i>re</i> Infant Deaths	...	...	...	...	284
Number of Visits <i>re</i> Non-Notifiable Infectious Diseases	...	...	...	...	605
Number of Inspections of Outworkers' premises	...	...	...	...	758
Number of Inspections of Workshops	...	...	...	...	211
Cases of Phthisis Visited	...	...	...	...	53
Special Visits	...	...	...	...	93
Unsuccessful Visits	...	...	...	...	861
Number of Inspections of Midwives	...	...	...	...	160
					<hr/> 5,750
Nurse's Visits:—					
Number of Visits to Infants	...	...	...	...	1,704
Number of Visits to Cases of Consumption	...	...	...	...	369
					<hr/> 2,073

**Housing of the Working Classes.**—The various properties which have come under observation during the past year are set out in the subjoined tabulation. They are not so numerous as in the previous year as various matters have required some of the time which has previously been devoted to this work.

Address of Property.	No. of houses concerned.	Action taken.
Bloom Street, 13, 15, 17, & 1, 2, 3 in Court 2	6	Repairs completed and property generally improved.
Bloom Street, 19, 21, 23, & 1, 2, 3 in Court 1	6	Repairs completed and property generally completed.
Bridge Street Little, 1-9	9	Property rendered habitable— all necessary repairs completed.
Cavendish Street, 4 & 1 & 2 at rear	3	All repairs effected under notice, including new w.c.'s, etc.
Eagle Street, 5-9, Court 1	5	Property closed by order, July 1st, 1907.
Eagle Street, 50, 51, 52, 53, 54, 1, 2, 3, 4, 5, 6 in Court 2	11	Property thoroughly repaired and put into a fairly satisfactory condition.
Eagle Street, 1, 2, 3, 4, 5 in Court 4	5	Property been improved. Necessary repairs and alterations effected.
George Yard, 17	1	Rendered habitable.
Haarlam Street, 1, 2, 3, 4 The Gardens	4	Rendered habitable.
Haarlam Street, 9	1	Demolished.
Hill Street, 10-18	8	Closed.
Hope Street, 1-4, Court 3	4	Only a few minor repairs were necessary.
King Street	2	Purchased by the Corporation for demolition.
Kensington Street, 1-4, Court 5	4	Houses damp in consequence of being back to back with prop- erty in Court 6 Kensington St. Latter now demolished. These houses are now fairly satisfactory and require no further action at present.

Address of Property.	No. of houses concerned.	Action taken.
Kensington Street, 1-4, Court 2	4	This property has been insufficiently repaired. Now fit for occupation. Further action deferred.
Kensington Street, 6-7	2	
New Street, 1-4, Moss Cottages	4	Notice served by Inspector of Nuisances to remedy defects.
Sadler Gate, 1-4, Court 9	4	General improvement effected.
Sadler Gate, 1 & 2, Court 8	2	There is an obstructive building in this court. Negotiations to purchase have failed. The houses are defective from the point of view of light and ventilation. Further action deferred.
Sadler Gate, 1 5, Titterton's Yard	5	Alterations effected to make property habitable.
St Michael's Lane, 1-4, Court 3	4	This property has been purchased by the Committee and will be demolished.
Bold Lane, 2-8, Collis' Yard	7	Houses closed. Owner not decided as to demolition.
Bold Lane, 5, 5a	2	Front houses used as shops and in occupation.

**General Inspectorial Work.**—The supervision of common lodging houses, tenement houses, and slaughter houses, has been carried out by two inspectors appointed for this purpose. Full particulars of the visits, infringements of the bye-laws, sanitary defects which were discovered, and the results of action to remedy same, are set out in the tabulation supplied to me by the Chief Inspector of Nuisances. In this same tabulation will be found the details of visits to places where ice cream is prepared for sale, and the supervision of bakerhouses has been referred to under the heading of "Factories and Workshops."

**Water Supply.** Several analyses of well waters from the Alveston district and also a few from the town have been submitted to analysis, and appropriate action has been taken where necessary. The water supply of the Borough has also been occasionally submitted to analysis, and it has not been found necessary to adversely criticise the water supply.

**Meteorological Return.**—I have to thank Mr. E. Forster, Secretary-Superintendent of the Derbyshire Royal Infirmary, for the information from which the subjoined table has been compiled.

TABLE XI.—Showing the means of the Meteorological Observations taken at the Derbyshire Royal Infirmary for the 12 months ended 31st December, 1907.

1907.	THERMOMETERS.				Rainfall in inches.		Greatest fall in 24 hours.		No. of Rainy days, 1907.
	Dry Bulb.	Wet Bulb.	Shade Temperature.		Infirmary Grounds 1907.	1906.	Amount in inches.	Date.	
			Maxi-mum.	Mini-mum.					
January ...	36·8	35·3	42·6	33·5	1·21	3·52	·29	28th.	15
February...	35·5	34·5	43·0	31·1	2·08	2·99	·43	12th.	17
March ..	41·8	39·5	51·3	34·7	1·46	1·83	·50	19th.	14
April ...	46·4	43·3	52·7	39·8	1·66	·64	·20	{ 12th and 21st.	24
May ...	52·0	48·1	58·5	44·8	3·73	1·52	·64	14th.	19
June ...	56·5	52·4	62·8	48·7	3·35	2·08	·41	11th.	26
July ...	58·2	54·2	64·2	50·0	2·75	·12	·77	21st.	20
August ...	59·3	55·3	66·6	51·2	3·24	1·03	1·27	14th.	15
September	55·6	52·7	65·5	47·9	·72	1·00	·29	4th.	7
October ...	49·3	47·7	56·3	43·1	3·65	5·32	·42	29th.	24
November	42·8	41·7	48·7	38·2	1·87	2·90	·32	26th.	21
December	39·5	38·4	44·0	35·6	2·76	3·10	·51	13th.	23

The highest mean shade temperatures were registered during the month of August. The greatest variation between the maximum and minimum temperature was observed during the months of March and September. February was the coldest month, and most rain fell during the months of May and October. The greatest number of rainy days was observed in June, April and October. The heaviest amount of rainfall in twenty-four hours was on the 14th August, when 1.27 inches fell. The nearest approach to this was on 21st July, when .77 inches fell.

## SANITARY INSPECTOR'S REPORT, 1907.

### Ford Street Stables.

*(Administered under the direction of the Plant & Stores Committee.)*

Number of Horses at beginning of year	...	60
Bought during the year	... ..	6
		— 66
Disposed of	... ..	7
		—
Inspector's Department	... ..	38
Surveyor's Department	... ..	16
Police and Fire Department	... ..	5
		—
		59

### Privy and Ashpit Cleansing.

Night-work.—Privies Cleansed	... ..	5,106
„ Ashpits Cleansed	... ..	2,812
„ Privy Cesspools Cleansed	... ..	466
Day-work.—Dry Ashpits Cleansed	... ..	663

### Refuse Collected.

Night-work.—Loads (Excreta only)	... ..	5,155
„ „ Ashes and Excreta	... ..	2,731
„ „ Ashes only	... ..	2,525
Day-work.— „ Ashes, etc.	... ..	25,209
		—
		35,620

**Refuse Disposal.**

Disposed of as Manure:—By Boats, 291 loads.

By Customers' own carts, 346 tons, 9 cwt.

Delivered to Farmers from pits, 2,323 cart loads.

Deposited on Tips, 3,401 cart loads.

Burned in the Destructor, 26,338 tons, 14cwt.

Extracted from Refuse & sold, 19 tons, 6 cwt., 2 qrs. of Scrap Iron,

3	,,	11	,,	1	,,	Bones,
9	,,	12	,,	1	,,	Tins,
		15	,,	2	,,	Sacking,
		1	,,	2	,,	27lbs. Solder.

**Refuse Collection and Disposal,  
Cost, calculated on Wages only.**

	Average No. of Men, including hired.	Loads	Wages only, including hired Men.
Day	46.54	25,209 @ 2/2.80	£2,815 8 8½
Night	27.91	10,411 @ 3/4.17	£1,742 11 4
Chester Depot	41.66	31,457 @ 1/6.96	£2,486 8 0

**Bakehouses.**

Bakehouses in occupation, January, 1907	...	103
New Bakehouses built and occupied	...	2
Empty Bakehouses re-occupied during year	...	3
		— 108
Converted to Factories	...	2
Tenancies given up	...	2
Total occupied Bakehouses in Borough...	...	104
Unoccupied, January, 1907	...	43
Since Vacated	...	2
		— 45
Demolished	...	2
Places re-occupied	...	3
		— 5
Total un-occupied Bakehouses	...	40
Visits to occupied Bakehouses	...	500
Visits to unoccupied Bakehouses	...	172
		— 672

## Sanitary Work :—

Defects Found	...	...	...	...	113
*Remedied	...	...	...	...	113
Notices Given	...	...	Verbal, 79;	Written	15

\*Six nuisances from previous year included.

Nuisances covered by 6 verbal notices are not yet cleared.

The following 9 nuisances, included in above, were dealt with on receipt of reports from His Majesty's Inspector of Factories :—

Lime-washing	...	...	...	...	5
Dirty Floors	...	...	...	...	2
Defective Spouting	...	...	...	...	1
Nuisance from Manure	...	...	...	...	1
					—
					9

**Canal Boats.**

1. Inspector and Salary. Chief Inspector and Assistant. No salary allocated.

Address: Sanitary Offices, Ford Street, Derby.

2. Boats Inspected, 44. Visits to Canal, 102.

3. Infringements of Acts and Regulations.

<i>a.</i> —Registration	...	0	<i>b.</i> —Change of Master	...	0
<i>c.</i> —No Certificate on Board	0		<i>d.</i> —Absence of Marking...	0	
<i>e.</i> —Overcrowding	...	0	<i>f.</i> —Separation of Sexes	...	0
<i>g.</i> —Cleanliness	...	...	<i>h.</i> —Ventilation	...	0
<i>i.</i> —Painting	...	...	<i>j.</i> —Provision of Water		
		0	Casks	...	2
<i>k.</i> —Removal of Bilge			<i>l.</i> —Notification of Infec-		
Water	...	0	tious Diseases	...	0
<i>m.</i> —Admittance of Inspec-			<i>n.</i> —Boats Found in bad		
tor	...	...	repair	...	1
	...	0			

4. Legal Proceedings, None.

5. Other steps taken: three caution forms and several letters sent, one boat found with defective Certificate—Number of occupants of fore and aft cabins transposed—Registration Authority communicated with and mistake rectified.

6. Cases of Infectious Diseases dealt with, None.
7. Detention of Boats for Cleansing and Disinfecting, None.
8. Number of Boats on Derby Register, end of year, 1907, 31.
9. Number of Boats Registered during the year 1907, None.

### Common Lodging Houses.

On Register at beginning of 1907	...	...	18
Added during 1907	...	...	2
			— 20
Closed during 1907	...	...	2
On Register at end of year	...	...	18
Visits of Inspection	...	...	1,588
Notices given, verbal and written	...	...	200
Complaints remedied	...	...	194

The majority of the 200 notices given in respect to this class of house, called for the cleansing of floors, utensils, etc., opening of windows for the required number of hours, and periodical cleansings and limewashings.

Attention should, however, be drawn to special efforts that are being made to bring the older houses more up to date. We have in Derby, registered as Common Lodging Houses, some of the oldest buildings in the town, and the general structural condition of such places will not allow a high standard of cleanliness to be maintained, however much Inspectors may press, and whatever efforts the keeper may put forth. Such houses which have necessarily to be in the poorer quarters, have been in existence for many years, and consequently need continual extensive alterations and repairs to keep them at all suitable for this purpose.

Two houses have been dealt with this year, viz., 4, Wright St., a very ancient building; and 1, George Yard, the oldest of these houses, and a landmark of Derby. Your Committee agreed to these houses again being brought up to date. The owners in each case doing what was necessary.

At 4, Wright Street, crevices were cemented, shelves done away with, walls pointed and re-plastered, floors repaired, yard re-paved, spouts, windows and doors renewed, ledges whereon dust could

lodge abolished or sloped so as to facilitate ordinary cleaning operations, woodwork painted, and the whole house cleaned throughout.

At 1, George Yard, the entire roof was stripped re-timbered and tiled, floors repaired, new stairs provided, additional new windows, existing windows altered repaired and made to open more fully, walls and ceilings renewed in many cases, all chimneys rebuilt, several new fireplaces, ovens, flues, etc. provided; outside walls re-pointed and plastered, and doors repaired. Partitions were pulled down, and unnecessary woodwork removed. One room was done away with, and an open yard made, two new w.c.'s were built, and lavatory basins fixed under lean-to-shed, rainwater pipes and eaves spouting repaired, and the whole house cleaned and painted throughout, a very extensive and satisfactory alteration being made, at a cost to the owner of over £160.

At 37, Nuns Street, improvements are continually being made by the owner, with a view to making the house "a Model."

Night inspections have been made by the Inspector, and in one instance grave irregularity was found on the part of the keeper, and in consequence the house is now in the hands of a new keeper, approved by your Committee.

#### Houses Let in Lodgings.

On Register at beginning of 1907	...	...	43
Added during 1907	...	...	1
			— 44
Closed during 1907	...	...	3
On Register at end of year	...	...	41
Visits of Inspection	...	...	2,362
Notices served	...	...	234
Contraventions of Bye-laws remedied	...	...	245

The 234 notices served were generally for cleansing of floors, stairs, utensils, emptying of slops, opening of windows, and such general contraventions of the Bye-laws.

This class of house is more difficult to deal with than the Common Lodging House, owing to difficulty in fixing responsibility for many of the offences, and the constant changing of occupiers of the different rooms.

### Dairies, Cowsheds, and Milkshops.

Registered as Cowkeepers within the Borough:—

On Register, January, 1907	...	...	.	26
New Registrations	...	...	...	3
				— 29
Removed from Register	...	...	...	1
Leaving on Register	...	...	...	28
Visits	...	...	...	108

Registered as Dairymen and Purveyors within the Borough:—

On Register, January, 1907	...	...	...	393
New Registrations	...	..	...	89
				— 482

Removed from Register	...	...	...	74
Leaving on Register	...	...	...	408
Visits, 1,766.				

Notices served, 198.

Nuisances abated, 198.

Registered Purveyors who live outside the Borough:—

On Register, January, 1907	...	...	...	145
New Registrations	...	...	...	8
Total on Register	...	...	...	153

Attention is directed to the number of alterations made in the Register, necessitating very close and careful supervision.

### Diseases of Animals Acts

*(Administered under the direction of the Markets Committee).*

The Borough has been free from any outbreak of disease during the year, but several new orders have been issued, and the special restrictions relating to movement of swine have been continued, necessitating constant attention in the Markets, the daily issue of Licenses, and supervision of movement and slaughter.

A Special Order relating to Glanders and Farcy has come into operation, with extensive powers for dealing with the disease amongst horses, which will entail much work and cost in the event of an outbreak.

Sheep Scab has been very prevalent in the Country for some time, and for months particular attention had to be given to the administration of a Special Order, requiring the dipping of all sheep within the Borough, and the regulation as far as possible of movement into and out of the Markets.

Orders relating to the cleansing and lime-washing of pig dealers' premises still remain in force, and supervision of this necessary work has been maintained week by week.

### Removal of Nuisances.

During the present year, five reports have been made to the Sanitary Committee to obtain authority for legal proceedings, but in no instance was it necessary to take measures to enforce the notices served.

For the first time in nearly twenty years it has been needful to summon an owner before the Magistrates for the abatement of a drainage nuisance, which arose during the latter end of 1906, connected with property whereon diphtheria had attacked the inmates. An Order was duly made, and the Defendant called upon to pay the costs. The money was paid, the work carried out in a satisfactory manner, and it is to be hoped that the influence of this case will still further strengthen our hands and enable us to get necessary sanitary work done without having to take these extreme measures.

With the exception of these six instances, the whole of the work set out in the accompanying table has been done on Preliminary Notices, by explanation, persuasion, and gentle pressure, 2,997 Notices having been served for this purpose, and followed up by circulars, letters and personal inspections.

All work is supervised during construction, and in case of drainage, the water test, to the extent that such would occur in case of stoppage, has been applied before the work is covered up.

An immense amount of labour has fallen upon your Inspectors by reason of the owners of property being called upon to renew defective tubs discovered in tub closets. It was infinitely easier when a defective tub was found, in course of emptying, to send another at once, at the cost of the rates, and so promptly get rid of the nuisance. Some delay is unavoidable before the owner can be got at, and the new tub paid for, under the present system, and it will doubtless be necessary, in view of this and increased attention to other items, that further assistance should be appointed.

Notices from His Majesty's Inspector of Factories relating to sanitation in Factories and Workshops, have been attended to, and the needed remedies applied, but as the staff is not equal to systematic inspection of workshops, this cannot yet be undertaken.

Details of nuisances dealt with in this connection have been supplied to the Medical Officer of Health.

## NUISANCES ABATED.

						A	B	C	X	Total.
Ashpits ...	Demolished ... ..	...	...	...	...	82	55	147	...	284
	Repaired ... ..	...	...	...	...	1	4	1	...	6
Drains ...	Cleansed and Repaired (or Soil Pipes)	...	...	...	...	243	319	215	...	777
	Disconnected from Sinks ... ..	...	...	...	...	13	11	20	...	44
	Provided (or Soil Pipes) ... ..	...	...	...	...	316	39	423	...	778
	Re-laid and New ... ..	...	...	...	...	467	671	729	...	1867
	Removed from Inside Houses ... ..	...	...	...	...	34	64	14	...	112
	Cut-off from Stream ... ..	...	...	...	...	...	...	1	...	1
	Soil Pipes Removed from Inside Houses ... ..	...	...	...	...	9	3	...	...	12
	Brick Replaced by Salt-glazed Pipes	...	...	...	...	76	128	7	...	211
Inlets Trapped and Inspection Chambers Provided or Repaired ...	...	...	...	...	...	613	614	830	...	2057
	Waste Pipes Repaired, Renewed, &c.	...	...	...	...	6	59	39	...	104
	Soil Pipes and Drains Ventilated ...	...	...	...	...	192	134	165	...	491
Houses ...	Cleansed ... ..	...	...	...	...	36	12	54	...	102
	Cellars Cleansed and Limewashed ...	...	...	...	...	13	6	6	...	25
	Damp Coursed and made Dry ... ..	...	...	...	...	3	14	24	...	41
	Overcrowding Prevented ... ..	...	...	...	...	1	2	1	...	4
	Ash Bins provided ... ..	...	...	...	...	152	140	289	...	581
	Dangerous Walls or Buildings Repaired	...	...	...	...	...	8	...	...	8
	Paving of Yards and Passages ..	...	...	...	...	126	320	369	...	815
	Roofs, Floors, &c. ... ..	...	...	...	...	39	42	39	...	120
	Spouting Repaired, Disconnected or Provided ... ..	...	...	...	...	79	203	149	...	431
	Rooms Ventilated ... ..	...	...	...	...	8	...	5	...	13
Privies ...	Cleansed and Repaired, or new Tubs Provided ... ..	...	...	...	...	475	348	290	...	1113
	Converted to W.C.'s ... ..	...	...	...	...	156	183	301	...	640
	Demolished ... ..	...	...	...	...	...	...	2	...	2
Urinals ...	Erected ... ..	...	...	...	...	2	2	1	...	5
	Removed ... ..	...	...	...	...	2	1	1	...	4
	Repaired ... ..	...	...	...	...	1	1	5	...	7
Water ...	Soft Water Tanks Cleansed and Repaired and Pumps Repaired...	...	...	...	...	17	38	17	...	72
	Disused Wells Filled in ... ..	...	...	...	...	9	29	35	...	73
	Houses Provided with Town Supply ...	...	...	...	...	2	1	15	...	18
	Covers of Tanks or Wells Repaired ...	...	...	...	...	2	...	...	...	2
W.C.'s ...	Cleansed or Repaired ... ..	...	...	...	...	7	18	35	...	60
	Flushing Water Laid on ... ..	...	...	...	...	1	19	1	...	21
	Additional Provided ... ..	...	...	...	...	2	13	10	...	25
	Fittings Repaired ... ..	...	...	...	...	46	46	19	...	111
Bakehouses,	Contraventions Remedied ... ..	...	...	...	...	...	...	...	113	113
Common Lodging-houses	.. ..	...	...	...	...	...	...	...	194	194
Dairies, Cowsheds and Milkshops	.. ..	...	...	...	...	...	...	...	198	198
Factories and Workshops	.. ..	...	...	...	...	1	45	11	...	57
Houses Let in Lodgings	.. ..	...	...	...	...	...	...	...	245	245
Ice Cream ...	.. ..	...	...	...	...	...	...	...	5	5
Offensive Trades	.. ..	...	...	...	...	...	...	...	2	2
Smoke Nuisances	.. ..	...	...	...	...	1	3	4	...	8
Accumulations of Manure, &c., removed, and Premises Cleansed ... ..						9	20	16	...	45
Fowls or Animals removed	.. ..	...	...	...	...	4	4	7	...	15
Manure Pits and Cesspools removed	.. ..	...	...	...	...	14	21	3	...	38
Stagnant Water removed	.. ..	...	...	...	...	...	1	10	...	11
Stables Drained or Paved	.. ..	...	...	...	...	7	11	9	...	27
Manure Pits Provided	.. ..	...	...	...	...	...	4	...	...	4
						3267	3656	4319	757	11999

## Ice Cream Premises.

Number of places on books, January, 1907	...	...	250
Added during the year	...	...	13
Struck off list	...	...	8
On books at end of year	...	...	255
Notices served, 4.			
Nuisances abated, 5.			
Visits, 338.			

## Police Court Proceedings.

No. of Cases	Offences.	Results.	Total Costs. £ s. d.
1	Selling Adulterated Butter ..	Fined 20s. and Costs	2 0 0
1	Delivering Margarine in un- marked wrapper ... ..	Withdrawn ... ..	...
1	Selling Adulterated Milk ...	Fined 5s. and Costs	1 5 0
1	Nuisance from Defective Drains ... ..	Ordered to abate and pay costs	0 12 0
1	For using in closet a tub not obtained from the Corpora- tion ... ..	Fined 5s. and Costs	1 1 6
1	Selling Adulterated Rum ...	„ 5s. and Costs	1 3 0
1	Exposing for sale unsound meat ... ..	„ 20s. and Costs	1 8 6
1	Selling Butter containing an excessive amount of water	„ 2s. 6d. & Costs	1 6 6
1	Selling Butter containing an excessive amount (50·4 grains per pound) of Boric Preservative ... ..	Dismissed ... ..	...
1	(Selling Margarine as Butter ...	Fined 2s. 6d. & Costs	1 4 6
1	Delivering Margarine in un- marked wrapper ... ..	*Dismissed	...
1	Delivering Margarine in un- marked wrapper .. ..	Adjourned pending Appeal	
1	Exposing for sale unmarked Margarine .. ..	Adjourned pending Appeal	

\* Seller convicted for selling Margarine as Butter, but on the same sample was acquitted on the charge of delivering Margarine in unmarked wrapper, on the ground that the substance sold was not Margarine. Appeal to High Court has been lodged.

## Registered Slaughterhouses.

In use at end of 1907:—

In hands of private holders	...	...	...	...	50
Corporation houses let to private tenants	...	...	...	...	18
Corporation houses used as public	...	...	...	...	3
Standing empty, private	...	...	...	...	2

—  
73

Visits of inspection for the year, 7,180.

One license, for 45, Sutherland Road, has lapsed, the place not  
having been used at all during the year.

One Corporation house used for fat dressing.

One Corporation house used for tripe dressing.

## UNSOUND FOOD.

## Condemned and Destroyed.

4 Sieves Blackberries.	5936 lbs. Mussells
25 lbs. Bacon.	306 lbs. Mutton.
3003 lbs. Beef.	68 lbs. Mackerel.
122 lbs. Beasts' Kidneys.	1044 Mackerel.
4 lbs. Beast's Udder.	4 Boxes Mackerel.
291 lbs. Cat Fish.	16 lbs. Lamb.
748 lbs. Cod Fish.	316 lbs. Plaice.
43 Chickens.	6 lbs. Pine-Apple.
380 lbs. Currants.	139 lbs. Pork.
38 lbs. Dabs.	377 Rabbits.
168 lbs. Fish Roe.	37 Baskets Raspberries.
136 lbs. Halibut.	29 lbs. Sugar.
308 lbs. Haddocks.	1020 lbs. Sprats.
544 lbs. Herrings.	368 lbs. Shrimps.
634 lbs. Hogs' Kidneys.	100 Sea Bream.
36 Boxes Kippers.	195 lbs. Veal.
2588 lbs. Liver, Lungs, etc.	49 lbs. Whiting.
14 lbs. Ling.	

Much unsound food has been intercepted and destroyed, the credit for which is due to the care and tact exercised by Inspector Turner, and the method which has been adopted in the town for some years, of helping butchers and others to eliminate all doubtful meat, etc., rather than to leave them to their own judgment and prosecute them if they do wrong.

This method enables us to get at more diseased meat, particularly of a tuberculous character, than would otherwise be possible, and this is most important when the question whether *any* part of a carcass so affected should be passed for food, has not yet been satisfactorily settled. Much diversity of practice exists in different towns, but until scientific experts come to a definite conclusion, we act upon the recommendations of the Royal Commission, and destroy all diseased organs or parts.

Attention has for four years now been called to the large number of tuberculous cows slaughtered for human food. This year sixty-three out of seventy-three tuberculous animals were cows which had been giving milk, some of them right up to the time of slaughter.

The following proportions are obtained by keeping record, and taking account of bulls, cows, and calves found to be tuberculous, and giving the percentage of cows from the total so found to be diseased.

1904.—88.88 per cent. tuberculous cows.

1905.—90.66   ,,                   ,,           ,,

1906.—79.01   ,,                   ,,           ,,

1907.—86.30   ,,                   ,,           ,,

It is to be hoped that any element of doubt regarding this disease as affecting our meat and milk supply will soon be settled once and for all.

### Food and Drugs Acts.

Samples submitted to the Borough Analyst (Mr. Otto Hehner).

Samples.	Article.	Genuine.	Adulterated.
5	Brandy ... ..	5	—
38	Butter ... ..	35	*3
8	Gin ... ..	8	—
2	Margarine ... ..	2	—
50	Milk ... ..	46	4
8	Rum ... ..	6	2
11	Whiskey ... ..	10	1
(a) 122		112	(a) 10

(a) 8.19 per cent. of samples purchased were adulterated.

\* See Note to Table "Police Court Proceedings."

### Offensive Trades.

There are now sixteen establishments within the Borough, one tallow melting works having been abandoned as per last year's report, and a reduction of one by consolidation as set out below.

Visits are paid from time to time by the Special Inspector, with a view to minimise as far as possible the nuisances which are inseparable from such trades.

Particular attention has been given to the soap works, where the open yard has been re-paved, old and ruinous buildings removed, drains and channels entirely relaid, special manure receptacle constructed, floor of works repaired, and special fat store constructed.

The skin dressing places in Slack Lane have been combined, considerably extended, and additional buildings erected under the supervision of the Borough Surveyor, and the Improvement Committee.

The following are the chief offensive trades carried on :—

Bone Boiling	...	...	...	1
Gut Scraping	...	...	...	1
Hide and Skin Marts	...	...	...	2
Leather Tanning	...	...	...	1
Parchment Works	...	...	...	1
Skin Curing	...	...	...	1
Soap Boiling	...	...	...	1
Tallow Melting	...	...	...	1
Tripe Boiling	...	...	...	6
Varnish Making	...	...	...	1
				—
				16

Visits, 11.

Notices, 15.

Defects Remedied, 2.

WILLIAM WILKINSON,

Chief Sanitary Inspector.

## BOROUGH SURVEYOR'S REPORT, 1907.

## Sewers cleaned out during 1907.

Loads			Loads		
Burton Road	...	23	Corn Market	...	8
Yates Street	...	5	Kedleston Road	...	12
Friar Gate	...	3	Sadler Gate	...	13
Holcombe Street	...	18	Erasmus Street	...	1
Calvert Street	...	3	St. Mark's Road	...	1
Merchant Street	...	1	Stockbrook Street	...	3
Larges Street	...	2	Brook Street	...	14
Slack Lane	...	3	Bridge Gate	...	20
St. Thomas' Road	...	7	Bath Street	...	1
Exeter Place	...	4	Full Street	...	2
Hulland Street	...	3	Cattle Market	...	4
Nottingham Road	...	10	Litchurch Lane	...	7
London Road	...	1			—
Brighton Road	...	2	Total	...	175
Derwent Street	...	4			—

## Manholes cleaned out during 1907.

Loads			Loads		
Park Street	...	1	Brook Street	...	4
Normanton Road	...	1	Cavendish Street	...	1
Vale Street	...	1	Litchurch Lane	...	1
Slack Lane	...	2			—
Nottingham Road	...	2			—
Trinity Street	...	1	Total	...	15
Carrington Street	...	1			—

## New Sewers Laid during 1907.

Nottingham Road	...	9"
Stores Road	...	9"
Murray Street	...	12"

**Water used during 1907.**

	Gallons.
Sewer Flushing ... ..	4,677,385
Court Flushing ... ..	637,916
Street Watering ... ..	6,764,000
Steam Rolling ... ..	1,280,940
Cabstands, Bridges, and Wood Paving ...	200,000
Footways ... ..	17,200

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Total ... 13,577,441

Disinfectant Powder used during 1907, Two Tons.

Disinfectant Fluid ,, 880 Gallons.

River Dredging during 1907, 125 Tons.

Markeaton Brook—Cleaning during 1907, 13 Tons.

**Manholes Constructed during 1907.**

Fox Street ... ..	3	Nottingham Road ...	8
Lower St. Mary's Gate ...	1	Uttoxeter New Road ...	1
Park Street ... ..	2	Erasmus Street ...	1
Colville Street ...	1	Wheeldon Avenue ...	1
Charlotte Street ...	2	Curzon Street ...	1
Ashbourne Road ...	7	Brook Street ... ..	1
Friar Gate ... ..	4	Siddals Road ... ..	1
Larges Street ... ..	1	Chestnut Avenue ...	1
Granville Street ...	2	Corn Market ... ..	1
Arboretum ... ..	1	Stockbrook Street ...	1
Uttoxeter Road ...	4	London Road ... ..	1
Osmaston Rd. Car Sheds	1	Bridge Street ... ..	1
Derwent Street ...	3		
Hulland Street ...	2		
St. Thomas' Road ...	1		
Stores Road ... ..	1		
		Total ... ..	55

JOHN WARD,

Borough Surveyor.

# Appendix I.

## COUNTY BOROUGH OF DERBY.

### Vital Statistics of Whole District during 1907 and previous years.

YEAR.	Population estimated to middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions.	Deaths of Non-residents registered in Public Institutions in District.	Deaths of Residents registered in Public Institutions beyond Dist.	Nett Deaths at all ages belonging to the Dist.	
		Number.	Rate.*	Under One Year of Age.		At all Ages.					Number.	*Rate.
				Number.	Rate per 1,000 Births Registered.	Number.	*Rate.					
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1897.	101,262	2,803	27·7	470	168	1,720	17·0	286	64	No record ... nil. ... ... ... 2 3	1,656	16·4
1898.	102,448	2,860	28·0	484	169	1,830	17·9	197	74		1,756	17·2
1899.	103,649	2,984	28·8	488	163	1,856	18·0	310	81		1,775	17·2
1900.	104,684	2,900	27·7	504	173	1,932	18·5	342	78		1,854	17·7
1901.	106,076	2,939	27·8	455	155	1,673	15·8	304	75		1,598	15·1
1902.	116,869	3,326	28·5	417	126	1,698	14·6	290	59		1,639	14·1
1903.	118,707	3,215	27·1	411	128	1,671	14·1	309	75		1,596	13·5
1904.	120,449	3,282	27·3	467	143	1,905	15·9	346	81		1,824	15·2
1905.	122,207	3,108	25·5	471	152	1,823	15·0	336	79	2	1,746	14·3
1906.	123,981	3,103	25·1	359	116	1,829	14·7	370	99	3	1,733	14·0
Averages for years 1897-1906.	112,033	3,052	27·3	453	149	1,794	16·1	309	77		1,718	15·4
1907.	125,774	3,152	25·1	384	122	1870	14·9	400	88	2	1,784	14·2

\* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

Area of District in acres (exclusive of area covered by water) 5,272 acres.

Total population at all ages	...	...	...	...	...	...	...	114,848	At Census of 1901.
Number of inhabited houses	...	...	...	...	...	...	...	24,851	
Average number of persons per house	...	...	...	...	...	...	...	4·7	

## Appendix II.

### Vital Statistics of separate Localities in 1907 and previous years.

[illegible]

Note re-arrangement of Ward Boundaries for 1902. It is impossible to group the old arrangement so as to render them statistically comparable with the new arrangement.



# COUNTY BOROUGH OF DERBY.

## Appendix III.

### Cases of Infectious Disease Notified during the Year 1907.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT							TOTAL CASES NOTIFIED IN EACH LOCALITY.															NO. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.																		
	At all Ages.	At Ages—Years.						Abbey.	Arboretum.	Babington. (I)	Becket.	Bridge.	Castle.	Dale.	Derwent. (H)	Friargate.	King's Mead.	Litchurch.	Markeaton.	Normanton.	Osmaston.	Pear Tree.	Rowditch. (W)	Abbey.	Arboretum.	Babington. (I)	Becket.	Bridge.	Castle.	Dale.	Derwent (H)	Friargate.	King's Mead.	Litchurch.	Markeaton.	Normanton.	Osmaston.	Pear Tree.	Rowditch (W)	Total.	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.																																		
Small-pox ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup) ...	605	3	111	392	65	35	...	76	48	46	22	11	43	58	28	47	15	31	34	37	17	37	56	9	4	9	6	1	10	5	11	4	3	5	5	1	1	5	4	83	
Erysipelas... ..	128	1	7	11	15	83	11	7	6	5	9	10	12	6	8	3	5	12	7	9	6	9	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever ... ..	181	3	50	113	10	5	...	12	15	14	7	5	9	6	10	9	5	7	10	14	23	19	16	4	10	9	5	...	6	2	7	5	4	3	3	3	19	12	10	108	
Typhus Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ... ..	74	...	2	20	17	35	...	1	2	4	1	1	12	8	10	4	2	6	5	8	1	6	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever... ..	7	...	...	...	2	5	...	2	...	...	...	...	1	1	...	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Plague ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis ... ..	99	...	2	11	21	64	1	11	2	4	5	2	13	1	3	4	15	8	8	3	2	9	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(Voluntary Notification)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals ... ..	1095	7	172	547	130	227	12	107	75	73	44	29	90	83	59	67	42	64	65	73	49	80	95	13	15	25	12	5	26	12	22	11	5	14	10	13	21	21	16	211	

(I) Derbyshire Royal Infirmary for treatment of Enteric Fever cases.

(H) Derby Borough Isolation Hospital for treatment of Diphtheria and Scarlet Fever cases.



## COUNTY BOROUGH OF DERBY.

#### Appendix IV.

Causes of, and Ages at, Death during 1907.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN OR BELONGING TO LOCALITIES (AT ALL AGES).																TOTAL DEATHS IN INSTITUTIONS IN THE DISTRICT.	STRANGERS.	
	All Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and up-ward.	Alley Ward.	Arboretum Ward.	Babington Ward.	Becket Ward.	Bridge Ward.	Castle Ward.	Dale Ward.	Derwent Ward.	Friargate Ward.	King's Mead Ward.	Litchurch Ward.	Marketon Ward.	Normanton Ward.	Osgeston Ward.	Pear Tree Ward.	Rowditch Ward.			
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	80	7	66	7	...	...	...	14	5	2	1	3	6	2	5	7	11	...	12	...	6	1	3	2	...	...
Scarlet Fever	4	...	3	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	...
Whooping-cough	23	10	13	...	...	...	...	4	...	1	1	2	1	...	...	2	2	1	...	3	2	1	...	3	...	...
Diphtheria and Membranous Croup	52	...	17	33	1	1	...	7	6	5	2	...	3	2	4	6	4	2	...	4	2	5	...	15	1	...
Croup (Typhus)	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	4	2	...	...	...	...	...
Fever (Enteric)	18	...	...	1	3	14	...	...	...	2	...	1	2	1	1	...	...	3	1	2	2	3	...	11	...	...
Other Continued	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza	23	3	1	1	2	13	3	...	2	5	...	1	1	1	...	2	1	1	3	2	...	4	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea	42	32	4	...	...	...	...	6	7	2	2	2	1	5	1	2	4	7	1	1	1	2	3	1	2	...
Enteritis	6	...	2	...	...	3	1	...	...	...	...	...	2	1	...	2	...	...	...	1	...	...	...	...	...	...
Puerperal Fever	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Erysipelas	4	...	...	...	1	3	...	...	1	...	...	...	...	...	...	...	...	2	...	...	...	...	1	2	1	...
Other Septic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis (Pulmonary Tuberculosis)	121	...	...	...	23	89	5	7	7	6	8	7	13	4	3	7	17	10	8	3	4	11	6	23	3	...
Other Tubercular Diseases	61	24	21	10	2	4	...	2	2	2	3	2	12	8	2	4	3	3	5	3	4	5	1	15	5	...
Cancer, Malignant Disease	114	...	2	...	1	73	38	5	11	6	5	3	20	9	8	7	7	8	7	...	1	9	5	22	4	...
Bronchitis	154	37	19	...	1	37	60	15	7	11	20	2	21	5	5	4	16	13	5	4	14	8	17	2	...	
Pneumonia	86	21	27	8	1	23	6	9	2	10	2	4	3	4	4	6	7	8	6	4	5	9	3	18	4	...
Pleurisy	6	...	1	...	1	2	2	...	...	...	1	1	...	...	...	...	...	1	1	...	...	...	...	...	...	...
Other Diseases of Respiratory Organs	23	4	2	1	1	12	3	2	...	4	1	1	5	1	2	1	1	2	1	...	...	2	3	1	1	...
Alcoholism, Cirrhosis of Liver	23	...	...	...	1	18	4	1	1	...	2	1	4	...	1	1	5	1	3	...	1	1	1	4	1	...
Veneral Diseases	3	3	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Premature Birth	69	69	...	...	...	...	...	8	4	2	7	2	9	7	5	5	3	3	1	1	1	3	3	3	2	...
Diseases and Accidents of Parturition	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Heart Diseases	200	10	4	10	10	98	68	20	14	15	14	11	12	8	7	12	13	14	11	7	1	12	21	30	5	...
Accidents	42	5	9	3	1	17	7	1	...	1	...	...	...	...	...	2	3	3	4	2	2	3	5	4	27	9
Suicides	14	...	...	...	...	12	1	1	3	...	...	...	...	...	...	...	...	1	1	2	1	1	1	2	...	...
Execution	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
All other Causes	613	152	41	13	19	178	210	33	36	38	46	26	64	30	28	40	68	31	44	33	22	33	41	197	50	...
All Causes	1784	377	233	93	68	599	414	136	110	114	117	68	192	84	79	114	165	106	122	88	65	121	103	400	88	...
Non-Residents	88	7	7	7	11	49	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...









